

## CAS ONLINE PRINTOUT

=&gt; d his

(FILE 'HOME' ENTERED AT 09:59:03 ON 27 DEC 2007)

FILE 'REGISTRY' ENTERED AT 10:00:33 ON 27 DEC 2007

L1 STRUCTURE UPLOADED

L2 12 S L1

L3 282 S L1 FUL

FILE 'CAPLUS' ENTERED AT 10:01:14 ON 27 DEC 2007

L4 146 S L3

FILE 'REGISTRY' ENTERED AT 10:03:52 ON 27 DEC 2007

L5 STRUCTURE UPLOADED

L6 19 S L5

L7 STRUCTURE UPLOADED

L8 19 S L7

L9 66913 S CAN

FILE 'REGISTRY' ENTERED AT 11:05:04 ON 27 DEC 2007

L10 19 S L7

L11 261 S L7 FUL

L12 6 SEARCH L7 CSS SUB=L11 FUL

FILE 'CAPLUS' ENTERED AT 11:07:27 ON 27 DEC 2007

L13 3 S L12

=&gt; d bib abs hitstr 1-3

L13 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1986:148472 CAPLUS

DN 104:148472

TI Synthesis of amine derivatives

IN Masuko, Fujio; Katsura, Tadashi

PA Sumitomo Chemical Co., Ltd. , Japan

SO U.S., 13 pp. Cont.-in-part of U.S. Ser. No. 65,429, abandoned.

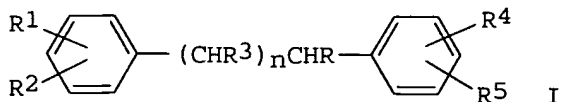
CODEN: USXXAM

DT Patent

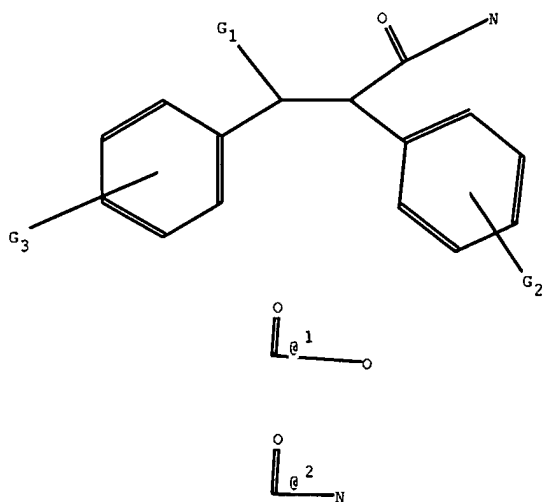
LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	---	----	-----	-----
PI	US 4536599	A	19850820	US 1979-90479	19791101
	JP 55028959	A	19800229	JP 1978-102614	19780822
	JP 61055488	B	19861128		
	JP 55033442	A	19800308	JP 1978-106541	19780830
	JP 62000905	B	19870110		
PRAI	JP 1978-102614	A	19780822		
	JP 1978-106541	A	19780830		
	US 1979-65429	A2	19790810		
OS	MARPAT 104:148472				
GI					



L7



31

chain nodes :

2 3 15 16 17 19 20 21 22 23 24 25 29 31

ring nodes :

1 4 5 6 7 8 9 10 11 12 13 14

chain bonds :

1-2 2-3 2-19 3-4 3-15 15-16 15-17 20-21 20-22 23-24 24-25

ring bonds :

1-5 1-9 4-10 4-14 5-6 6-7 7-8 8-9 10-11 11-12 12-13 13-14

3:3 E exact RC ring/chain

Match level :

1:Atom 2:CLASS3:CLASS4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:/  
13:Atom 14:Atom 15:CLAS\$16:CLAS\$17:CLAS\$19:CLAS\$20:CLAS\$2  
24:CLAS\$25:CLAS\$29:CLAS\$30:Atom 31:CLAS\$32:Atom

## CAS ONLINE PRINTOUT

AB Diphenylalkylamines I (R = NH<sub>2</sub>; R<sub>1</sub>-R<sub>5</sub> = H, halo, OH, trihalomethyl, Ph, PhO, PhS, alkyl, alkenyl, alkoxy, alkylthio, dialkylamino, alkylsulfonyl; n = 2, 3), useful as pharmaceutical intermediates and optical resolution agents, were prepared by condensing R<sub>4</sub>R<sub>5</sub>C<sub>6</sub>H<sub>3</sub>CH<sub>2</sub>CN with R<sub>1</sub>R<sub>2</sub>C<sub>6</sub>H<sub>3</sub>(CHR<sub>3</sub>)<sub>n</sub>X (X = halo) in the presence of a base, hydrolysis of the resultant I (R = cyano) by H<sub>2</sub>O<sub>2</sub> and a base in the presence of an organic quaternary ammonium salt, and Hofmann rearrangement of the resultant I (R = CONH<sub>2</sub>) in the presence of a base. Thus, 4-ClC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>CN, PhCH<sub>2</sub>Cl, Bu<sub>4</sub>NBr, and 25% aqueous NaOH reacted in PhMe to give 95% PhCH<sub>2</sub>CHRC<sub>6</sub>H<sub>4</sub>Cl-4 (II; R = cyano), which was hydrolyzed by aqueous NaOH-H<sub>2</sub>O<sub>2</sub> in MeOH in the presence of Bu<sub>4</sub>NBr to give 98% II (R = CONH<sub>2</sub>). Rearrangement of the amide by Br-NaOH in MeOH gave 97% II (R = NH<sub>2</sub>) (III), which was resolved by L-(+)-tartaric acid to give 50% resolution yield of 1-III.

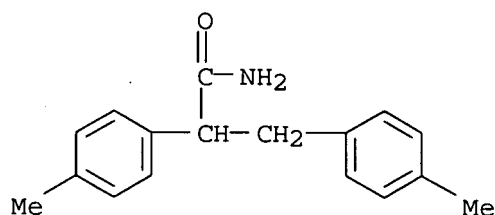
IT 74533-40-7P 74533-41-8P 74533-42-9P

74533-47-4P 74533-54-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and reaction with hypohalite)

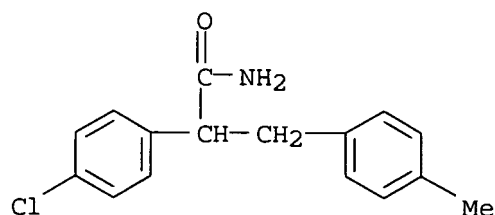
RN 74533-40-7 CAPLUS

CN Benzenepropanamide, 4-methyl- $\alpha$ -(4-methylphenyl)- (CA INDEX NAME)



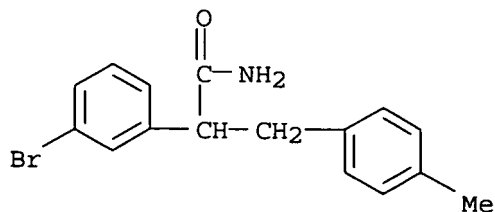
RN 74533-41-8 CAPLUS

CN Benzenepropanamide,  $\alpha$ -(4-chlorophenyl)-4-methyl- (CA INDEX NAME)



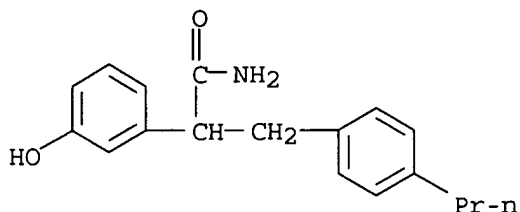
RN 74533-42-9 CAPLUS

CN Benzenepropanamide,  $\alpha$ -(3-bromophenyl)-4-methyl- (CA INDEX NAME)



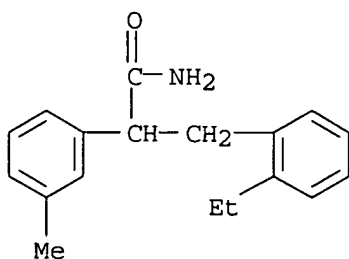
RN 74533-47-4 CAPLUS

CN Benzenepropanamide,  $\alpha$ -(3-hydroxyphenyl)-4-propyl- (CA INDEX NAME)



RN 74533-54-3 CAPLUS

CN Benzenepropanamide, 2-ethyl-α-(3-methylphenyl)- (CA INDEX NAME)



L13 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1983:575329 CAPLUS

DN 99:175329

OREF 99:26889a,26892a

TI Oxidative decyanation of benzyl and benzhydryl cyanides. A simplified procedure

AU Kulp, Stuart S.; McGee, Michael J.

CS Dep. Chem., Moravian Coll., Bethlehem, PA, 18018, USA

SO Journal of Organic Chemistry (1983), 48(22), 4097-8

CODEN: JOCEAH; ISSN: 0022-3263

DT Journal

LA English

OS CASREACT 99:175329

AB The reaction of 24 examples of mono and disubstituted nitriles with atmospheric oxygen in Me<sub>2</sub>SO and either K<sub>2</sub>CO<sub>3</sub> or lithium isopropylcyclohexylamide base at ambient temperature is reported. In 13 cases the oxidative decyanation product (ketone) was obtained in >90% yield. Thus, 1.00 g PhCH<sub>2</sub>CN was treated with 1.00 g K<sub>2</sub>CO<sub>3</sub> in 30 mL Me<sub>2</sub>SO at room temperature to give 0.809

Ph<sub>2</sub>CO

(95% yield). Reaction half-lives were determined for several nitriles.

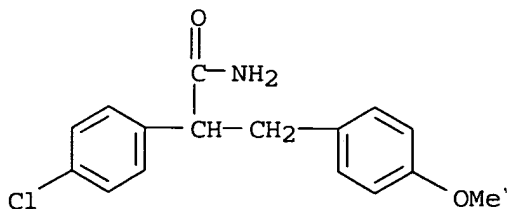
IT 87184-36-9P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of, by oxidative decyanation of nitrile)

RN 87184-36-9 CAPLUS

CN Benzenepropanamide, α-(4-chlorophenyl)-4-methoxy- (CA INDEX NAME)



## CAS ONLINE PRINTOUT

L13 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1980:495018 CAPLUS

DN 93:95018

OREF 93:15221a,15224a

TI Synthesis of amides and amines

IN Masuko, Fujio; Katsura, Tadashi

PA Sumitomo Chemical Co., Ltd., Japan

SO Eur. Pat. Appl., 49 pp.

CODEN: EPXXDW

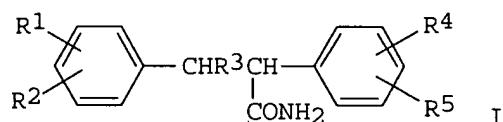
DT Patent

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 8532	A1	19800305	EP 1979-301696	19790820
	EP 8532	B1	19830720		
	R: BE, CH, DE, FR, GB, IT, NL, SE				
	JP 55028959	A	19800229	JP 1978-102614	19780822
	JP 61055488	B	19861128		
	JP 55033442	A	19800308	JP 1978-106541	19780830
	JP 62000905	B	19870110		
	EP 40896	A2	19811202	EP 1981-200767	19790820
	EP 40896	A3	19820203		
	EP 40896	B1	19840425		
	R: BE, DE, CH, FR, GB, IT, NL, SE				
PRAI	JP 1978-102614	A	19780822		
	JP 1978-106541	A	19780830		
	EP 1979-301696	A	19790820		

GI



AB Amides I (R1, R2, R3, R4 = H, halo, OH, trihalomethyl, Ph, PhO, PhS, C1-6 alkyl, hydroxyalkyl, alkenyl, alkoxy, alkylthio, dialkylamino, alkylsulfonyl; R1R2 or R3R4 = ring; R3 = H or R1) were prepared by hydrolysis of the corresponding nitriles in presence of quaternary ammonium compds. and in aqueous alkaline H2O2. The amides I were converted to

the corresponding amines by treatment with hypohalites. Thus, PhCH2CN with 4-MeC6H4CH4Cl gave PhCH(CN)CH2C6H4Me-4, which on hydrolysis in aqueous NaOH containing H2O2 and Bu4NOH gave PhCH(CONH2)CH2C6H4Me-4 (II). II in MeOH containing NaOH was treated with Br at 0° and a catalytic amount of Bu4NOH and the mixture refluxed to give PhCH2CH(NH2)CH2C6H4-Me.

IT 74533-40-7P 74533-41-8P 74533-42-9P

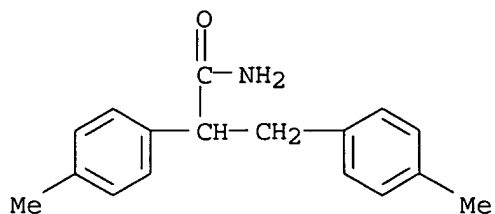
74533-47-4P 74533-54-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

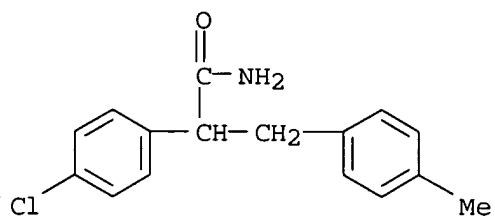
(preparation and reaction with hypohalite)

RN 74533-40-7 CAPLUS

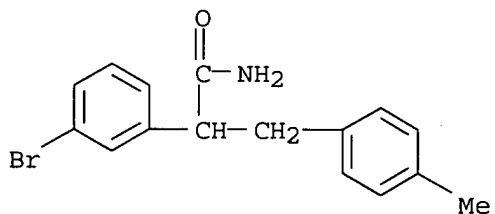
CN Benzenepropanamide, 4-methyl-α-(4-methylphenyl)- (CA INDEX NAME)



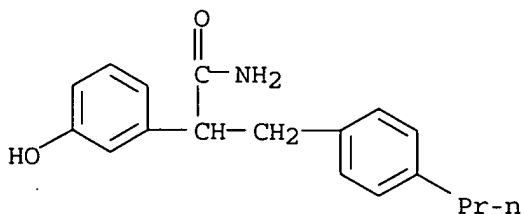
RN 74533-41-8 CAPLUS  
 CN Benzenepropanamide,  $\alpha$ -(4-chlorophenyl)-4-methyl- (CA INDEX NAME)



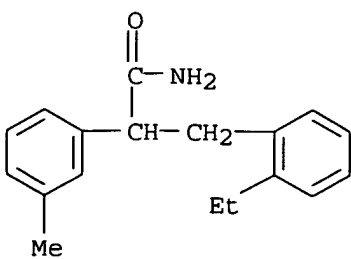
RN 74533-42-9 CAPLUS  
 CN Benzenepropanamide,  $\alpha$ -(3-bromophenyl)-4-methyl- (CA INDEX NAME)



RN 74533-47-4 CAPLUS  
 CN Benzenepropanamide,  $\alpha$ -(3-hydroxyphenyl)-4-propyl- (CA INDEX NAME)



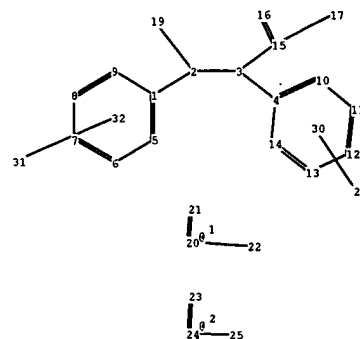
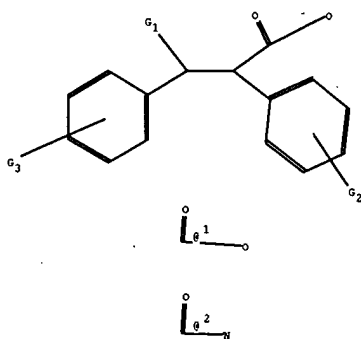
RN 74533-54-3 CAPLUS  
 CN Benzenepropanamide, 2-ethyl- $\alpha$ -(3-methylphenyl)- (CA INDEX NAME)



CAS ONLINE PRINTOUT

=>

L1



chain nodes :

2 3 15 16 17 19 20 21 22 23 24 25 29 31

ring nodes :

1 4 5 6 7 8 9 10 11 12 13 14

chain bonds :

1-2 2-3 2-19 3-4 3-15 15-16 15-17 20-21 20-22 23-24 24-25

ring bonds :

1-5 1-9 4-10 4-14 5-6 6-7 7-8 8-9 10-11 11-12 12-13 13-14

exact/norm bonds :

2-19 15-16 15-17 20-21 20-22 23-24 24-25

exact bonds :

1-2 2-3 3-4 3-15

normalized bonds :

1-5 1-9 4-10 4-14 5-6 6-7 7-8 8-9 10-11 11-12 12-13 13-14

G1:H,Ak,OH

G2:Ak,OH,SO2,NH,X,[\*1],[\*2]

G3:X,Ak,MeO,EtO,n-PrO,i-PrO,n-BuO,i-BuO,s-BuO,t-BuO,SO2,NH,[\*1],[\*2]

Connectivity :

3:3-E exact RC ring/chain

Match level :

1:Atom 2:CLASS3:CLASS4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom 12:Atom  
13:Atom 14:Atom 15:CLASS16:CLASS17:CLASS19:CLASS20:CLASS21:CLASS22:CLASS23:CLASS  
24:CLASS25:CLASS29:CLASS30:Atom 31:CLASS32:Atom

CAS ONLINE PRINTOUT

=> d his

(FILE 'HOME' ENTERED AT 09:59:03 ON 27 DEC 2007)

FILE 'REGISTRY' ENTERED AT 10:00:33 ON 27 DEC 2007

L1 STRUCTURE UPLOADED

L2 12 S L1

L3 282 S L1 FUL

FILE 'CAPLUS' ENTERED AT 10:01:14 ON 27 DEC 2007

L4 146 S L3

=> d l1

L1 HAS NO ANSWERS

L1 STR

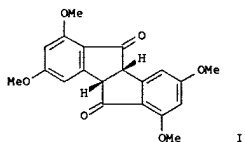
\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

Structure attributes must be viewed using STN Express query preparation.

=> d bib abs hitstr 55-146

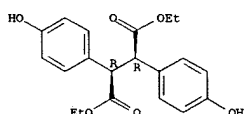
## CAS ONLINE PRINTOUT

L4 ANSWER 55 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1996:193712 CAPLUS  
 DN 124:316690  
 TI Synthesis of 1,3,6,8-tetramethoxy-cis-4b,5,9b,10-tetrahydroindeno[2,1-a]indene-5,10-dione  
 AU Bianchi, D. E.; Alessio, E. N.; Iglesias, G. Y. Moltrasio  
 CS Departamento Química Organica, Universidad Buenos Aires Junin 956 (1113), Buenos Aires, Argent.  
 SO Organic Preparations and Procedures International (1996), 28(2), 230-4  
 CODEN: OPPIAK; ISSN: 0030-4948  
 PB Organic Preparations and Procedures, Inc.  
 DT Journal  
 LA English  
 OS CASREACT 124:316690  
 GI



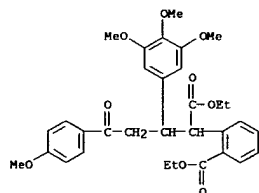
AB The title compound I was prepared in 5 steps from (3,5-dimethoxyphenyl)acetonitrile. I will be used in an investigation of the synthesis of pallidol.  
 IT 176386-39-3P 176386-40-6P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation of tetramethoxyindenoindenedione)  
 RN 176386-39-3 CAPLUS  
 CN Butanedioic acid, 2,3-bis(4-hydroxyphenyl)-, diethyl ester, (R\*,R\*)- (9CI)  
 (CA INDEX NAME)

Relative stereochemistry.

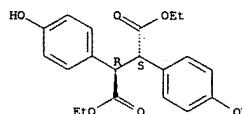


RN 176386-40-6 CAPLUS  
 CN Butanedioic acid, 2,3-bis(4-hydroxyphenyl)-, diethyl ester, (R\*,S\*)- (9CI)  
 (CA INDEX NAME)

L4 ANSWER 56 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1995:402285 CAPLUS  
 DN 122:290768  
 TI Some reactions of (3,4,5-trimethoxybenzylidene)-4-methoxyacetophenone  
 AU Mahmoud, M. R.; Ebrahim, Awatef E. F.; Abd-El-Halim, M. S.; Radwan, A. M.  
 CS Faculty Science, Ain Shams University, Cairo, Egypt  
 SO Indian Journal of Heterocyclic Chemistry (1994), 4(2), 131-6  
 CODEN: IJCHEI; ISSN: 0971-1627  
 DT Journal  
 LA English  
 AB Some new pyrazolines have been prepared by the reaction of (3,4,5-trimethoxybenzylidene)-4-methoxyacetophenone (I) with hydrazines in different media. Unexpected bromination is observed on treatment of I with bromine to give the pentabromo derivative, which was reacted with hydrazine hydrate and hydroxylamine hydrochloride. The behavior of I towards Et phenylacetate, Et cyanoacetate, and di-Et homophthalate under Michael conditions has also been studied. Reaction of I with thioglycolic and thioarbutic acids have also been studied.  
 IT 163074-81-5P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (reactions of (trimethoxybenzylidene)methoxyacetophenone)  
 RN 163074-81-5 CAPLUS  
 CN Benzenepentanoic acid, α-[2-(ethoxycarbonyl)phenyl]-4-methoxy-8-oxo-β-(3,4,5-trimethoxyphenyl)-, ethyl ester (9CI) (CA INDEX NAME)

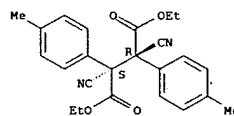


L4 ANSWER 55 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 Relative stereochemistry.



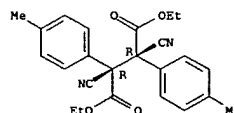
L4 ANSWER 57 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1995:363883 CAPLUS  
 DN 122:329535  
 TI Differentiation of meso- and dl-α-polysubstituted dibenzyl compounds by IR spectroscopy  
 AU Zhang, Bin; Jia, Zhisheng; Qi, Chenze  
 CS Department of Chemistry, Lanzhou University, Lanzhou, 730000, Peop. Rep. China  
 SO Lanzhou Daxue Xuebao, Ziran Kexueban (1994), 30(1), 68-71  
 CODEN: LCTHAF; ISSN: 0455-2059  
 PB Lanzhou Daxue  
 DT Journal  
 LA Chinese  
 AB Meso- and dl-diethyl-2,3-dicyano-2,3-di(p-X substituted phenyl) succinates (X = OMe, CH<sub>3</sub>, H, Cl, NO<sub>2</sub>) were studied by IR spectroscopy. The vibration wavenumbers of meso-isomers are higher at ν<sub>C=O</sub> and lower at ν<sub>C-O</sub> than those of the corresponding dl-isomers.  
 IT 139257-67-3 139257-68-4 139257-70-8, meso-Diethyl-2,3-dicyano-2,3-di(p-chlorophenyl) succinate 139257-71-9  
 RL: ANT (Analyte); PRP (Properties); ANST (Analytical study)  
 (differentiation of meso- and dl-α-polysubstituted dibenzyl compds. by IR spectroscopy)  
 RN 139257-67-3 CAPLUS  
 CN Butanedioic acid, 2,3-bis(4-methylphenyl)-, diethyl ester, (2R,3R)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



RN 139257-68-4 CAPLUS  
 CN Butanedioic acid, 2,3-bis(4-methylphenyl)-, diethyl ester, (2R,3R)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

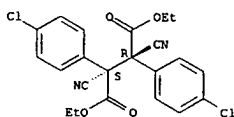


RN 139257-70-8 CAPLUS  
 CN Butanedioic acid, 2,3-bis(4-chlorophenyl)-2,3-dicyano-, diethyl ester, (2R,3S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

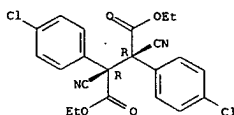
## CAS ONLINE PRINTOUT

L4 ANSWER 57 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



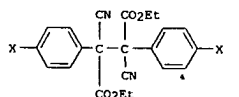
RN 139257-71-9 CAPLUS  
 CN Butanedioic acid, 2,3-bis(4-chlorophenyl)-2,3-dicyano-, diethyl ester,  
 (2R,3R)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



L4 ANSWER 58 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1994:680346 CAPLUS  
 DN 121:280346  
 TI Mass spectra of di-diethyl 2,3-dicyano-2,3-bis(p-substituted phenyl)succinates  
 AU Li, Haiquan; Qi, Chenze; Zai, Jianjun; Zhao, Fanzhi; Chen, Nenyu; Hao, Xiumei; Yang, Dilun  
 CS Dep. Chem., Lanzhou Univ., Lanzhou, 730000, Peop. Rep. China  
 SO Lanzhou Daxue Xuebao, Ziran Kexueban (1993), 29(3), 142-4  
 CODEN: LCTHAF; ISSN: 0455-2059  
 DT Journal  
 LA Chinese  
 GI

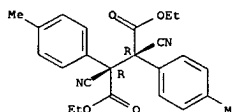


AB The mass spectral of title compds. I (X = H, Cl, Me, MeO, NO2) were studied by means of low resolution EIMS and high resolution accuracy mass measuring MS. The fragmentation mechanism of the di-Et esters and structures of characteristic ions formed were discussed.

IT 139257-68-4 139257-71-9  
 RL: PRP (Properties)  
 (mass spectra of di-Et dicyano(diphenyl)succinates)

RN 139257-68-4 CAPLUS  
 CN Butanedioic acid, 2,3-dicyano-2,3-bis(4-methylphenyl)-, diethyl ester,  
 (2R,3R)-rel- (9CI) (CA INDEX NAME)

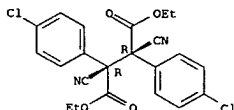
Relative stereochemistry.



RN 139257-71-9 CAPLUS  
 CN Butanedioic acid, 2,3-bis(4-chlorophenyl)-2,3-dicyano-, diethyl ester,  
 (2R,3R)-rel- (9CI) (CA INDEX NAME)

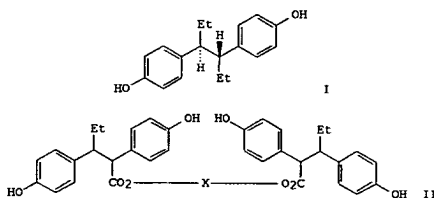
Relative stereochemistry.

L4 ANSWER 58 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



L4 ANSWER 59 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1994:500056 CAPLUS  
 DN 121:100056  
 TI Bivalent ligands as probes of estrogen receptor action  
 AU Bergmann, Kathryn E.; Wooge, Cynthia H.; Carlson, Kathryn E.; Katzenellenbogen, Benita S.; Katzenellenbogen, John A.  
 CS Dep. Chem., Univ. Illinois, Urbana, IL, 61801, USA  
 SO Journal of Steroid Biochemistry and Molecular Biology (1994), 49(2-3), 139-52  
 CODEN: JSBBEZ; ISSN: 0960-0760  
 DT Journal  
 LA English  
 GI



AB The estrogen receptor (ER) is a hormone-regulated transcription factor which is thought to bind to specific DNA sequences as a homodimer. To better understand structural requirements for dimerization and its functional role in ER action, the authors synthesized a series of bivalent ligands based on the non-steroidal estrogen hexestrol (I). These mol. probes join two hexestrol mols. of the erythro (E, active) configuration with either 4 or 8 carbon linkers (II) [designated E-4-E (X = (CH2)4) and E-8-E (X = (CH2)8) series, resp.], or with longer linkers comprised of ethylene glycol units II [E-eg-E (X = CH2(CH2OCH2)nCH2, n = 1-4) series]. Several other bi- and monovalent control compds. were prepared. The bivalent ligands bind to ER with a relative affinity 1-7% that the estradiol. While most of the ligands demonstrated normal monophasic displacement curves in competitive binding assays with [3H]estradiol, uncharacteristic biphasic competitive binding curves were seen for some of the ligands, indicating possible structure-specific, neg. site-site interaction. In ER-deficient Chinese hamster ovary (CHO) cells transfected with an expression vector encoding ER, one series of bivalent ligands (E-4-E) had little stimulatory activity and inhibited transcription stimulated by hexestrol, as determined by a transient transfection assay using an estrogen-responsive reporter gene construct ((ERE)2-TATA-CAT, containing two estrogen response elements linked to a TATA promoter and the chloramphenicol acetyl transferase reporter gene). Monovalent or control bivalent ligands failed to antagonize hexestrol-stimulated activity and were as fully active as hexestrol itself. Studies performed in MCF-7 human breast cancer cells, which contain endogenous ER, yielded similar bioactivity profiles for the E-4-E bivalent inhibitory ligands, showing them to be effective estrogen antagonists, when using either induction of

## CAS ONLINE PRINTOUT

L4 ANSWER 59 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 progesterone receptor or (ERE)2-TATA-CAT transcriptional activation as the endpoint. The E-8-E ligand, however, acted as partial agonist/antagonist of ERE-reporter gene transactivation and a full agonist of progesterone receptor induction in MCF-7 cells, thus showing cell- and response-specific differences in the effects of this bivalent ligand. These bivalent ligands for ER do not show enhanced potency or receptor binding affinity; however, some of them display binding properties that suggest the possibility of structure-specific neg. site-site interaction, and some of them function as quite effective estrogen antagonists.

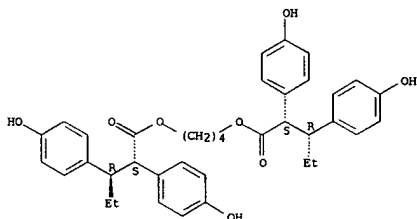
IT 156926-22-6 156926-24-8

RL: BIOL (Biological study)

RN 156926-22-6 CAPLUS (estrogen receptor binding by, antagonist activity in relation to)

CN Benzenepropanoic acid,  $\beta$ -ethyl-4-hydroxy- $\alpha$ -(4-hydroxyphenyl)-, 1,4-butanediyl ester, [ $\alpha$ R\*( $\alpha$ \*R\*, $\beta$ \*S\*), $\beta$ S\*]- (9CI) (CA INDEX NAME)

Rotation (-). Absolute stereochemistry unknown.

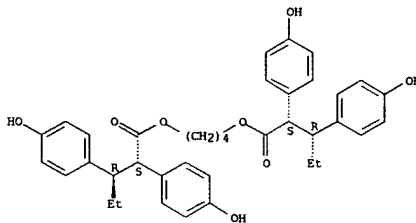


RN 156926-24-8 CAPLUS

CN Benzenepropanoic acid,  $\beta$ -ethyl-4-hydroxy- $\alpha$ -(4-hydroxyphenyl)-, 1,4-butanediyl ester, [ $\alpha$ R\*( $\alpha$ \*R\*, $\beta$ \*S\*), $\beta$ S\*]- (9CI) (CA INDEX NAME)

Relative stereochemistry.

L4 ANSWER 59 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



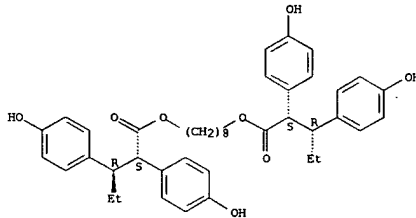
IT 156840-42-5 156926-25-9

RL: BIOL (Biological study)

RN 156840-42-5 CAPLUS (estrogen receptor binding by, biol. activity in relation to)

CN Benzenepropanoic acid,  $\beta$ -ethyl-4-hydroxy- $\alpha$ -(4-hydroxyphenyl)-, 1,8-octanediyl ester, [ $\alpha$ R\*( $\alpha$ \*R\*, $\beta$ \*S\*), $\beta$ S\*]- (9CI) (CA INDEX NAME)

Relative stereochemistry.

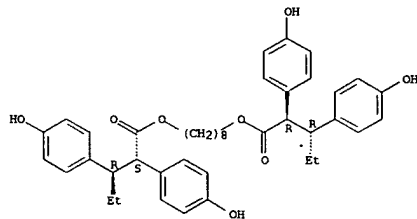


RN 156926-25-9 CAPLUS

CN Benzenepropanoic acid,  $\beta$ -ethyl-4-hydroxy- $\alpha$ -(4-hydroxyphenyl)-, 1,8-octanediyl ester, [ $\alpha$ R\*( $\alpha$ \*S\*, $\beta$ \*R\*), $\beta$ R\*]- (9CI) (CA INDEX NAME)

Relative stereochemistry.

L4 ANSWER 59 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



IT 156840-31-2 156840-32-3 156840-33-4

156840-34-5 156840-35-6 156840-36-7

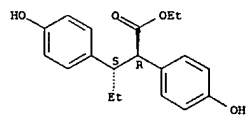
156840-37-8 156840-38-9 156840-39-0

RL: BIOL (Biological study)

RN 156840-31-2 CAPLUS (estrogen receptor binding by, bivalent analogs in relation to)

CN Benzenepropanoic acid,  $\beta$ -ethyl-4-hydroxy- $\alpha$ -(4-hydroxyphenyl)-, ethyl ester, ( $R^*$ , $S^*$ )- (9CI) (CA INDEX NAME)

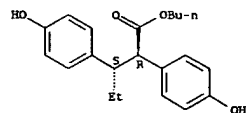
Relative stereochemistry.



RN 156840-32-3 CAPLUS

CN Benzenepropanoic acid,  $\beta$ -ethyl-4-hydroxy- $\alpha$ -(4-hydroxyphenyl)-, butyl ester, ( $R^*$ , $S^*$ )- (9CI) (CA INDEX NAME)

Relative stereochemistry.

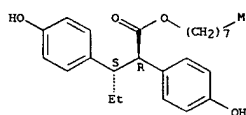


RN 156840-33-4 CAPLUS

CN Benzenepropanoic acid,  $\beta$ -ethyl-4-hydroxy- $\alpha$ -(4-hydroxyphenyl)-, octyl ester, ( $R^*$ , $S^*$ )- (9CI) (CA INDEX NAME)

Relative stereochemistry.

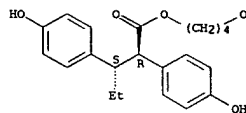
L4 ANSWER 59 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 156840-34-5 CAPLUS

CN Benzenepropanoic acid,  $\beta$ -ethyl-4-hydroxy- $\alpha$ -(4-hydroxyphenyl)-, 4-hydroxybutyl ester, ( $R^*$ , $S^*$ )- (9CI) (CA INDEX NAME)

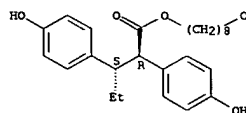
Relative stereochemistry.



RN 156840-35-6 CAPLUS

CN Benzenepropanoic acid,  $\beta$ -ethyl-4-hydroxy- $\alpha$ -(4-hydroxyphenyl)-, 8-hydroxyoctyl ester, ( $R^*$ , $S^*$ )- (9CI) (CA INDEX NAME)

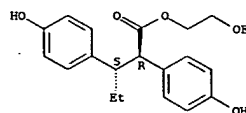
Relative stereochemistry.



RN 156840-36-7 CAPLUS

CN Benzenepropanoic acid,  $\beta$ -ethyl-4-hydroxy- $\alpha$ -(4-hydroxyphenyl)-, 2-ethoxyethyl ester, ( $R^*$ , $S^*$ )- (9CI) (CA INDEX NAME)

Relative stereochemistry.

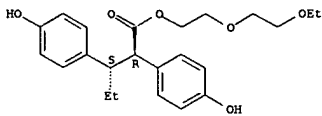


RN 156840-37-8 CAPLUS

## CAS ONLINE PRINTOUT

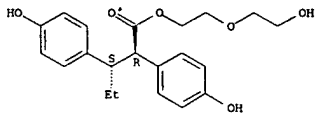
L4 ANSWER 59 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 CN Benzenepropanoic acid,  $\beta$ -ethyl-4-hydroxy- $\alpha$ -(4-hydroxyphenyl)-, 2-(2-ethoxyethoxy)ethyl ester, (R\*,S\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



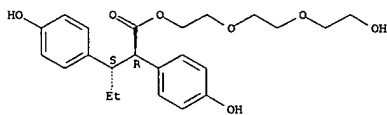
RN 156840-38-9 CAPLUS  
 CN Benzenepropanoic acid,  $\beta$ -ethyl-4-hydroxy- $\alpha$ -(4-hydroxyphenyl)-, 2-(2-hydroxyethoxy)ethyl ester, (R\*,S\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



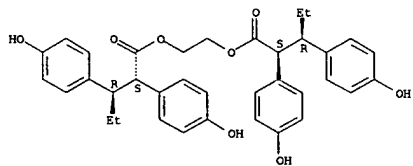
RN 156840-39-0 CAPLUS  
 CN Benzenepropanoic acid,  $\beta$ -ethyl-4-hydroxy- $\alpha$ -(4-hydroxyphenyl)-, 2-[2-(2-hydroxyethoxy)ethoxy]ethyl ester, (R\*,S\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



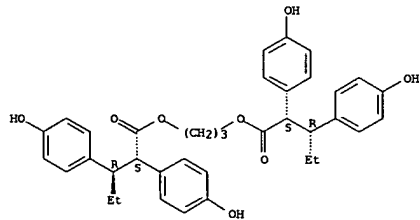
IT 156840-29-8 156840-30-1 156840-40-3  
 156840-41-4 156840-47-0 156840-48-1  
 156840-49-2 156840-50-5 156926-23-7  
 156926-28-2 156926-29-3 156926-30-6  
 156926-31-7  
 RL: BIOL (Biological study)  
 (estrogen receptor binding by, structure in relation to)  
 RN 156840-29-8 CAPLUS  
 CN Benzenepropanoic acid,  $\beta$ -ethyl-4-hydroxy- $\alpha$ -(4-hydroxyphenyl)-,

L4 ANSWER 59 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 156840-41-4 CAPLUS  
 CN Benzenepropanoic acid,  $\beta$ -ethyl-4-hydroxy- $\alpha$ -(4-hydroxyphenyl)-, 1,3-propanediyl ester, [alphaR\*(alpha'R\*,beta'S\*),betaS\*]- (9CI) (CA INDEX NAME)

Relative stereochemistry.

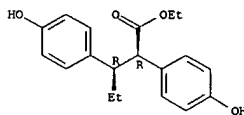


RN 156840-47-0 CAPLUS  
 CN Benzenepropanoic acid,  $\beta$ -ethyl-4-hydroxy- $\alpha$ -(4-hydroxyphenyl)-, oxydi-2,1-ethanediyl ester, [alphaR\*(alpha'R\*,beta'S\*),betaS\*]- (9CI) (CA INDEX NAME)

Relative stereochemistry.

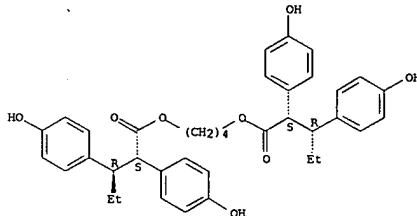
L4 ANSWER 59 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 ethyl ester, (R\*,R\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



RN 156840-30-1 CAPLUS  
 CN Benzenepropanoic acid,  $\beta$ -ethyl-4-hydroxy- $\alpha$ -(4-hydroxyphenyl)-, 1,4-butanediyl ester, [alphaR\*(alpha'R\*,beta'S\*),betaS\*]- (9CI) (CA INDEX NAME)

Rotation (+). Absolute stereochemistry unknown.

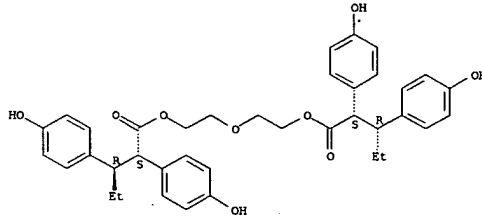


RN 156840-40-3 CAPLUS  
 CN Benzenepropanoic acid,  $\beta$ -ethyl-4-hydroxy- $\alpha$ -(4-hydroxyphenyl)-, 1,2-ethanediyl ester, [alphaR\*(alpha'R\*,beta'S\*),betaS\*]- (9CI) (CA INDEX NAME)

Relative stereochemistry.

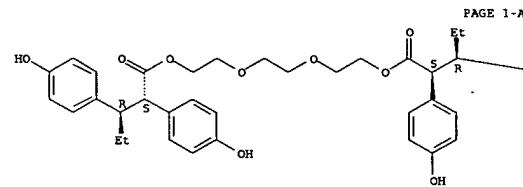


L4 ANSWER 59 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



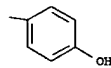
RN 156840-48-1 CAPLUS  
 CN Benzenepropanoic acid,  $\beta$ -ethyl-4-hydroxy- $\alpha$ -(4-hydroxyphenyl)-, 1,2-ethanediylbis(oxy-2,1-ethanediyl) ester, [alphaR\*(alpha'R\*,beta'S\*),betaS\*]- (9CI) (CA INDEX NAME)

Relative stereochemistry.



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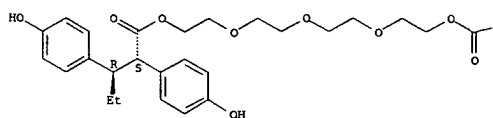
RN 156840-49-2 CAPLUS  
 CN Benzenepropanoic acid,  $\beta$ -ethyl-4-hydroxy- $\alpha$ -(4-hydroxyphenyl)-, oxybis(2,1-ethanediyl)oxy-2,1-ethanediyl ester, [alphaR\*(alpha'R\*,beta'S\*),betaS\*]- (9CI) (CA INDEX NAME)

Relative stereochemistry.

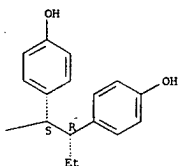
## CAS ONLINE PRINTOUT

L4 ANSWER 59 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A



PAGE 1-B

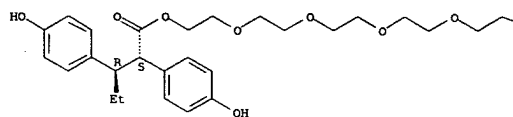


RN 156940-50-5 CAPLUS  
 CN Benzenepropanoic acid, beta-ethyl-4-hydroxy-alpha-(4-hydroxyphenyl)-, 3,6,9,12-tetraoxatetradecane-1,14-diyl ester, [alphaR\*(alpha'S\*,beta'R\*),betaR\*]- (9CI) (CA INDEX NAME)

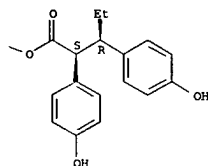
Relative stereochemistry.

L4 ANSWER 59 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

PAGE 1-A

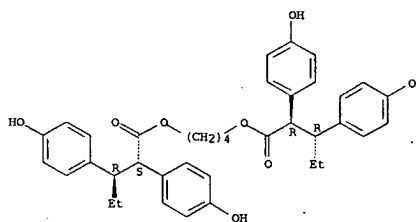


PAGE 1-B



RN 156926-23-7 CAPLUS  
 CN Benzenepropanoic acid, beta-ethyl-4-hydroxy-alpha-(4-hydroxyphenyl)-, 1,4-butanediyl ester, [alphaR\*(alpha'S\*,beta'R\*),betaR\*]- (9CI) (CA INDEX NAME)

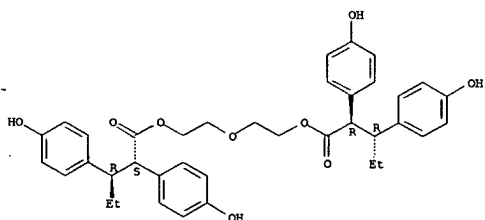
Relative stereochemistry.



RN 156926-28-2 CAPLUS  
 CN Benzenepropanoic acid, beta-ethyl-4-hydroxy-alpha-(4-hydroxyphenyl)-, 1,4-butanediyl ester, [alphaR\*(alpha'S\*,beta'R\*),betaR\*]- (9CI) (CA INDEX NAME)

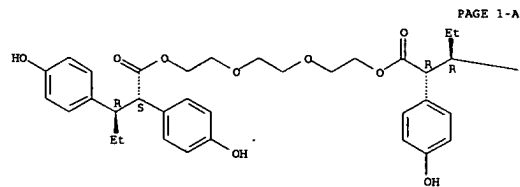
L4 ANSWER 59 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 oxydi-2,1-ethanediyl ester, [alphaR\*(alpha'S\*,beta'R\*),betaR\*]- (9CI) (CA INDEX NAME)

Relative stereochemistry.

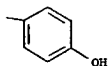


RN 156926-29-3 CAPLUS  
 CN Benzenepropanoic acid, beta-ethyl-4-hydroxy-alpha-(4-hydroxyphenyl)-, 1,2-ethanediylbis(oxy-2,1-ethanediyl) ester, [alphaR\*(alpha'S\*,beta'R\*),betaR\*]- (9CI) (CA INDEX NAME)

Relative stereochemistry.



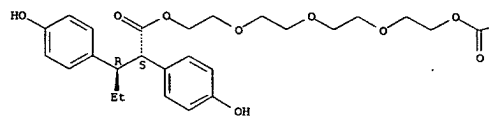
PAGE 1-B



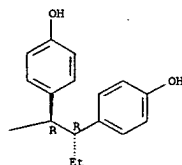
RN 156926-30-6 CAPLUS  
 CN Benzenepropanoic acid, beta-ethyl-4-hydroxy-alpha-(4-hydroxyphenyl)-, oxybis(2,1-ethanediyl)oxy-2,1-ethanediyl ester, [alphaR\*(alpha'S\*,beta'R\*),betaR\*]- (9CI) (CA INDEX NAME)

L4 ANSWER 59 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 Relative stereochemistry.

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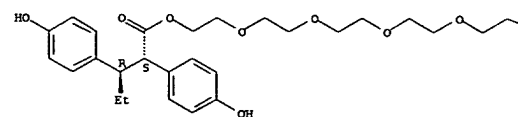
PAGE 1-B



RN 156926-31-7 CAPLUS  
 CN Benzenepropanoic acid, beta-ethyl-4-hydroxy-alpha-(4-hydroxyphenyl)-, 3,6,9,12-tetraoxatetradecane-1,14-diyl ester, [alphaR\*(alpha'S\*,beta'R\*),betaR\*]- (9CI) (CA INDEX NAME)

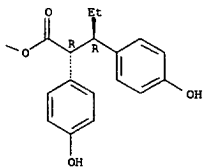
Relative stereochemistry.

PAGE 1-A

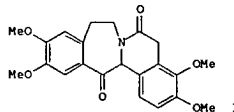


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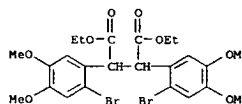
L4 ANSWER 59 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 AN 1994:269805 CAPLUS  
 DN 120:269805  
 TI Scope and mechanism of the reaction of alkylidenephosphoranes with  
 10-methyleneanthrone  
 AU Ganoub, Neven A. F.; Abdou, Wafaa M.; Yakout, El Sayed M. A.  
 CS Dep. Pestic. Chem., Natl. Res. Cent., Cairo, Egypt  
 SO Phosphorus, Sulfur and Silicon and the Related Elements (1993), 84(1-4),  
 197-204  
 CODEN: PSSLEC; ISSN: 1042-6507  
 DT Journal  
 LA English  
 GI



L4 ANSWER 60 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1994:270919 CAPLUS  
 DN 120:270919  
 TI Synthesis of saulatine  
 AU Kim, Dong Chin; Yoon, Won Hyung; Choi, Hoen; Kim, Dong H.  
 CS Dep. Chem., Pohang Inst. Sci. Technol., Pohang, 790-600, S. Korea  
 SO Journal of Heterocyclic Chemistry (1993), 30(5), 1431-6  
 CODEN: JHTCAD; ISSN: 0022-152X  
 DT Journal  
 LA English  
 OS CASREACT 120:270919  
 GI



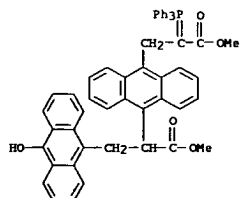
AB A study directed toward the synthesis of saulatine (5,8,9,14a-tetrahydro-3,4,11,12-tetramethoxyisoquinolo[1,2-b]benzazepine-6,14-dione) (I) is described. The successful synthetic route consists of three steps starting with 3,4-dimethoxyphenethylamine and 2-bromo-(3,4-dimethoxy-2-ethoxycarbomethylphenyl)acetate. The methoxy moieties present on the aromatic rings prohibit the use of the intramol. Friedel-Crafts reaction with a Lewis acid catalyst for ring construction because of their demethylation tendency under the reaction conditions.  
 IT 154534-99-3P  
 RL: PREP (Preparation)  
 (intermediate in attempted synthesis of saulatine)  
 RN 154534-99-3 CAPLUS  
 CN Butanedioic acid, 2,3-bis(2-bromo-4,5-dimethoxyphenyl)-, diethyl ester (9CI) (CA INDEX NAME)



L4 ANSWER 61 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1994:269805 CAPLUS  
 DN 120:269805  
 TI Scope and mechanism of the reaction of alkylidenephosphoranes with  
 10-methyleneanthrone  
 AU Ganoub, Neven A. F.; Abdou, Wafaa M.; Yakout, El Sayed M. A.  
 CS Dep. Pestic. Chem., Natl. Res. Cent., Cairo, Egypt  
 SO Phosphorus, Sulfur and Silicon and the Related Elements (1993), 84(1-4),  
 197-204  
 CODEN: PSSLEC; ISSN: 1042-6507  
 DT Journal  
 LA English  
 GI

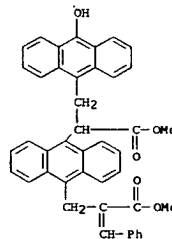
\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB Quinone methide I reacts with excess (carbomethoxymethylene)triphenylphosphorane to afford bisanthracenol II (R = CO<sub>2</sub>Me), III (R<sub>1</sub> = Me), and ylides IV and V; reaction of I with (carbomethoxymethylene)triphenylphosphorane gave similar and different products. The polarity of the solvent had a limited effect on the reaction. Mechanistic studies suggest that I can react as a Diels-Alder diene and function as a dienophile in the same reaction. Wittig reactions of IV and V with BzH were described.  
 IT 154504-11-7P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and Wittig reaction with benzaldehyde)  
 RN 154504-11-7 CAPLUS  
 CN 9-Anthracenepropanoic acid, 10-[1-[(10-hydroxy-9-anthracenyl)methyl]-2-methoxy-2-oxoethyl]-α-(triphenylphosphoranylidene)-, methyl ester (9CI) (CA INDEX NAME)



IT 154504-14-0P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 154504-14-0 CAPLUS  
 CN 9-Anthracenepropanoic acid, 10-[1-[(10-hydroxy-9-anthracenyl)methyl]-2-methoxy-2-oxoethyl]-α-(phenylmethylene)-, methyl ester (9CI) (CA INDEX NAME)

L4 ANSWER 61 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

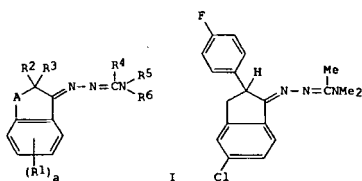
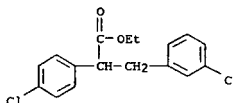


## CAS ONLINE PRINTOUT

L4 ANSWER 62 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1994:163733 CAPLUS  
 DN 120:163733  
 TI Hydrazone derivative insecticides and/or acaricides containing the same as active ingredient and intermediate compounds thereof  
 IN Taki, Toshiaki; Kaida, Hiroshi; Saito, Shigeru; Isayama, Shinji  
 PA Sumitomo Chemical Co., Ltd., Japan  
 SO Eur. Pat. Appl., 96 pp.  
 CODEN: EPXKDW  
 DT Patent  
 LA English  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 567138	A2	19931027	EP 1993-106584	19930422
EP 567138	A3	19940112		
R: CH, DE, ES, FR, GB, IT, LI, NL				
CA 2094333	A1	19931024	CA 1993-2094333	19930419
US 5451607	A	19950919	US 1993-47490	19930419
JP 06056754	A	19940301	JP 1993-94674	19930421
BR 9301628	A	19931026	BR 1993-1628	19930422
AU 9337063	A	19931028	AU 1993-37063	19930422
AU 657215	B2	19950302		
PRAI JP 1992-131616	A	19920423		
OS MARPAT 120:163733				
GI				

L4 ANSWER 62 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 IT 153278-90-1P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 [preparation and reaction of, in preparation of hydrazone insecticides]  
 RN 153278-90-1 CAPLUS  
 CN Benzenepropanoic acid, 3-chloro- $\alpha$ -(4-chlorophenyl)-, ethyl ester (CA INDEX NAME)

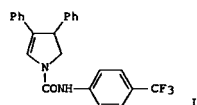
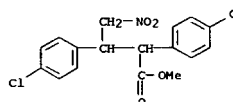


AB The title compds. I [A = (CH2)t, O, S(O)n, OCH2, (un)substituted NH, etc.; n = 0-2; t = 1-3; R1 = halogen, CN, NO2, azide, etc.; R2 = H, C1-6 alkyl, C1-6 haloalkyl, C3-6 cycloalkyl, C2-6 alkenyl, (un)substituted Ph, etc.; R3 = H, C1-6 alkyl, C1-6 haloalkyl, C2-6 alkenyl, C2-6 haloalkenyl, C2-6 alkynyl, etc.; R4 = H, C1-6 alkyl, C1-6 haloalkyl; R5 = C1-6 alkyl, C1-6 haloalkyl, C2-6 alkenyl, C2-6 haloalkenyl, C2-6 alkynyl, etc.; R6 = H, C1-6 alkyl, C2-6 haloalkyl, C2-6 alkenyl, C2-6 cyanoalkyl, etc.; a = 1-4], useful as insecticides and/or acaricides, are prepared. Thus, 5-chloro-2-(4-fluorophenyl)-2,3-dihydro-1H-inden-1-ylidene hydrazone was reacted with N,N-dimethylacetamide dimethylacetal, producing hydrazone II, m.p. 133.6°, which demonstrated 100% mortality against tobacco cutworm (*Spodoptera litura*) at 500 ppm.

L4 ANSWER 63 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1994:134276 CAPLUS  
 DN 120:134276  
 TI Agrochemical arthropodocidal amides  
 IN Amoo, Victor Ekow; Annis, Gary David; March, Robert William, Jr.  
 PA du Pont de Nemours, E. I., and Co., USA  
 SO PCT Int. Appl., 129 pp.  
 CODEN: PIXKDX  
 DT Patent  
 LA English  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9319045	A1	19930930	WO 1993-US2434	19930318
W: AU, BR, BG, CA, CZ, FI, HU, JP, KP, KR, KZ, LX, MG, MN, MW, NO, NZ, PL, RO, RU, SD, SK, UA, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, SN, TD, TG				
AU 9338118	A	19931021	AU 1993-38118	19930318
EP 632803	A1	19950111	EP 1993-907555	19930318
EP 632803	B1	19981209		
R: ES, FR, IT				
JP 07507276	T	19950810	JP 1993-516702	19930318
JP 3446052	B2	20030916		
BR 9306225	A	19980630	BR 1993-6225	19930318
ES 2127270	T3	19990416	ES 1993-907555	19930318
CN 1098093	A	19950201	CN 1993-116861	19930726
US 5514678	A	19960507	US 1994-307572	19940922
PRAI US 1992-858205	A2	19920326		
US 1992-875174	A2	19920428		
WO 1993-US2434	A	19930318		
OS MARPAT 120:134276				
GI				

L4 ANSWER 63 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



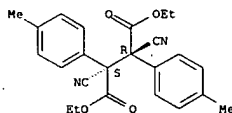
AB The title compds. QC(X)N(Y)G [G = (un)substituted pyridyl, (un)substituted Ph, (un)substituted cyclohexyl, (un)substituted piperidinyl; Q = phenyldihydropyrrrolyl, phenylheterocyclyl, etc.; X = O, S; Y = H, C1-6 alkyl, PhCH2, C2-6 alkenyl, C2-6 alkynyl, etc.], useful for the control of arthropods in both agronomic and nonagronomic environments, are prepared and their activity is demonstrated against a wide variety of arthropod species. Thus, dihydropyrrrole I (m.p. 200-201°) was prepared.

IT 152628-91-6P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 [preparation and reaction of, in preparation of agrochem. arthropodocidal amides]  
 RN 152628-91-6 CAPLUS  
 CN Benzenepropanoic acid, 4-chloro- $\alpha$ -(4-chlorophenyl)- $\beta$ -(nitromethyl)-, methyl ester (CA INDEX NAME)

# CAS ONLINE PRINTOUT

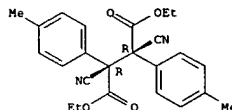
L4 ANSWER 64 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1993:494855 CAPLUS  
 DN 119:94855  
 TI Laser Raman spectroscopic study on two isomers of  $\alpha$ -polysubstituted dibenzyl compounds  
 AU Qi, Chenze; Zhang, Bin; Jia, Xueqing; Yang, Dilun  
 CS Dep. Chem., Lanzhou Univ., Lanzhou, 730000, Peop. Rep. China  
 SO Guangpuxue Yu Guangpu Fenxi (1992), 12(4), 11-14  
 CODEN: GYGFE0; ISSN: 1000-0593  
 DT Journal  
 LA Chinese  
 AB Five pairs of meso- and dL-4-XC6H4C(CN)(CO2Et)C(CN)(CO2Et)C6H4X-4 (X = H, Cl, Me, NO2) have been studied by laser Raman spectroscopy. The Raman bands of some groups have been analyzed. The effect of different configurations on the laser Raman spectra is discussed.  
 IT 139257-67-3 139257-68-4 139257-70-8  
 139257-71-9  
 RL: PRP (Properties)  
 (Raman spectrum of)  
 RN 139257-67-3 CAPLUS  
 CN Butanedioic acid, 2,3-dicyano-2,3-bis(4-methylphenyl)-, diethyl ester, (2R,3S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



RN 139257-68-4 CAPLUS  
 CN Butanedioic acid, 2,3-dicyano-2,3-bis(4-methylphenyl)-, diethyl ester, (2R,3R)-rel- (9CI) (CA INDEX NAME)

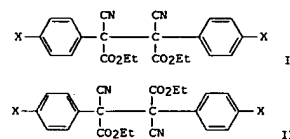
Relative stereochemistry.



RN 139257-70-8 CAPLUS  
 CN Butanedioic acid, 2,3-bis(4-chlorophenyl)-2,3-dicyano-, diethyl ester, (2R,3S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

L4 ANSWER 65 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1993:491499 CAPLUS  
 DN 119:91499  
 TI Effect of molecular configuration and substituent electronic effect on carbon-13 NMR spectra of diethyl 2,3-dicyano-2,3-bis(p-substituted phenyl)succinates  
 AU Yang, Dilun; Qi, Chenze; Wu, Jingjia; Cui, Yuxin; Liu, Youcheng  
 CS Dep. Chem., Lanzhou Univ., Lanzhou, 730000, Peop. Rep. China  
 SO Gaoxue Xuebao (1993), 14(2), 257-60  
 CODEN: KTHPDM; ISSN: 0251-0790  
 DT Journal  
 LA Chinese  
 GI



AB The meso (I: X = OCH3, CH3, H, Cl, NO2) and dL isomers (II: same X) of the title esters are studied by <sup>13</sup>C NMR spectrometry. The chemical shifts of the carbon atoms in the same group on both sides of the central C-C bond are equivalent, and the chemical shifts of the C7-C9 atoms in II are smaller than in I.

I. Plots of chemical shifts of C6, C7 and C8 atoms vs. Hammett  $\sigma$  const. of substituents in the para position of the benzene ring are linear.

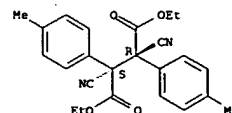
IT 139257-67-3 139257-68-4 139257-70-8

139257-71-9  
 RL: PRP (Properties)  
 (carbon-13 NMR of)

RN 139257-67-3 CAPLUS

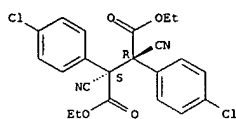
CN Butanedioic acid, 2,3-dicyano-2,3-bis(4-methylphenyl)-, diethyl ester, (2R,3S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



RN 139257-68-4 CAPLUS  
 CN Butanedioic acid, 2,3-dicyano-2,3-bis(4-methylphenyl)-, diethyl ester,

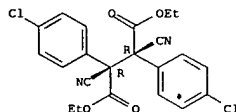
L4 ANSWER 64 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 139257-71-9 CAPLUS

CN Butanedioic acid, 2,3-bis(4-chlorophenyl)-2,3-dicyano-, diethyl ester, (2R,3R)-rel- (9CI) (CA INDEX NAME)

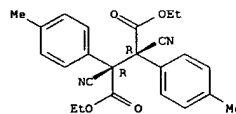
Relative stereochemistry.



L4 ANSWER 65 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

(2R,3R)-rel- (9CI) (CA INDEX NAME)

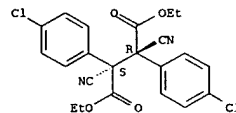
Relative stereochemistry.



RN 139257-70-8 CAPLUS

CN Butanedioic acid, 2,3-bis(4-chlorophenyl)-2,3-dicyano-, diethyl ester, (2R,3S)-rel- (9CI) (CA INDEX NAME)

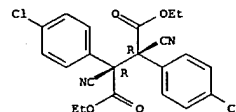
Relative stereochemistry.



RN 139257-71-9 CAPLUS

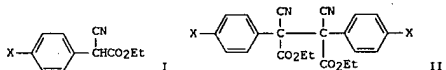
CN Butanedioic acid, 2,3-bis(4-chlorophenyl)-2,3-dicyano-, diethyl ester, (2R,3R)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



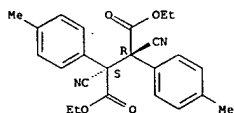
## CAS ONLINE PRINTOUT

L4 ANSWER 66 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1993:408231 CAPLUS  
 DN 119:8231  
 TI Study on the mechanism of oxidative coupling reactions of ethyl  
 α-cyano-p-X-substituted phenylacetates by using the catalyst  
 [Cu<sup>2+</sup>(OH)-TMEDA]2Cl<sub>2</sub>  
 AU Yang, Dilun; O, Chenze; Lu, Minglan; Liu, Youcheng  
 CS Dep. Chem., Lanzhou Univ., 730000, Peop. Rep. China  
 SO Huaxue Xuebao (1993), 51(1), 66-72  
 CODEN: HHHPA4; ISSN: 0567-7351  
 OT Journal  
 LA Chinese  
 GI



AB The oxidative coupling reactions of the title compds. I (X = OCH<sub>3</sub>, CH<sub>3</sub>, H, Cl, NO<sub>2</sub>) with Cu<sup>2+</sup>-TMEDA-O<sub>2</sub> (TMEDA = N,N,N',N'-tetramethylethylenediamine) system give meso- and dl-succinates II. On the basis of the stereochem. and IR, <sup>1</sup>H NMR and EPR determination of the reactive intermediates of the oxidative coupling reactions, the mechanism was suggested.  
 IT 139257-67-3P 139257-68-4P 139257-70-8P  
 139257-71-9P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 139257-67-3 CAPLUS  
 CN Butanedioic acid, 2,3-dicyano-2,3-bis(4-methylphenyl)-, diethyl ester, (2R,3S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



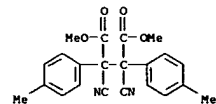
RN 139257-68-4 CAPLUS  
 CN Butanedioic acid, 2,3-dicyano-2,3-bis(4-methylphenyl)-, diethyl ester, (2R,3R)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

L4 ANSWER 67 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1993:256345 CAPLUS  
 DN 118:256345  
 TI Manufacture of fiber-reinforced plastic products and preregs  
 IN Araki, Shigeo  
 PA Kayaku Noury Corp, Japan  
 SO Jpn. Kokai Tokkyo Koho, 6 pp.  
 CODEN: JKKXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

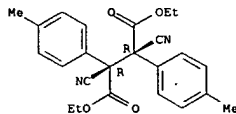
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 05009246	A	19930119	JP 1991-160844	19910606
PRAI JP 1991-160844		19910606		

AB The title products are manufactured by curing prepreg materials containing unsatd. polyesters or vinyl ester resins in the presence of R<sub>3</sub>CGH<sub>4</sub>CR<sub>1</sub>R<sub>2</sub>CR<sub>1</sub>R<sub>2</sub>CGH<sub>4</sub>R<sub>3</sub> (R<sub>1</sub> = cyano, CO<sub>2</sub>Me, CO<sub>2</sub>Et; R<sub>2</sub> = CO<sub>2</sub>Me, CO<sub>2</sub>Et; R<sub>3</sub> = H, Me, OMe) at 60-100°. Thus, a glass mat was impregnated with a composition containing PolyLite 8010 100, NS 100 100, 1,2-bis(p-methoxyphenyl)-1,2-dicarboethoxy-1,2-dicyanoethane 1, Zn stearate 4, and MgO 0.5 part, sandwiched between polyethylene films, and kept at 20° for 7 days to give a prepreg mat showing gelation time >180 days at 20° and giving cured product with Barcoll hardness 60.  
 IT 31249-03-3 34404-72-3, 1,2-Bis(p-methylphenyl)tetracarboethoxyethane 70230-43-2  
 147992-58-3 147992-59-4 147992-60-7, 1,2-Bis(p-methylphenyl)tetracarboethoxyethane  
 RL: CAT (Catalyst use); USES (Uses)  
 (catalysts, unsatd. polyesters and vinyl ester resins containing, for preregs with long shelf life)  
 RN 31249-03-3 CAPLUS  
 CN Butanedioic acid, 2,3-dicyano-2,3-bis(4-methylphenyl)-, dimethyl ester (9CI) (CA INDEX NAME)



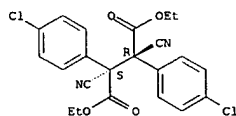
RN 34404-72-3 CAPLUS  
 CN 1,1,2,2-Ethanetetracarboxylic acid, 1,2-bis(4-methylphenyl)-, tetramethyl ester (9CI) (CA INDEX NAME)

L4 ANSWER 66 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



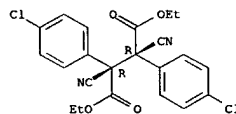
RN 139257-70-8 CAPLUS  
 CN Butanedioic acid, 2,3-bis(4-chlorophenyl)-2,3-dicyano-, diethyl ester, (2R,3S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

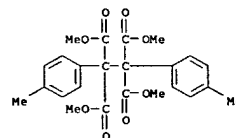


RN 139257-71-9 CAPLUS  
 CN Butanedioic acid, 2,3-bis(4-chlorophenyl)-2,3-dicyano-, diethyl ester, (2R,3R)-rel- (9CI) (CA INDEX NAME)

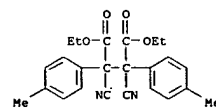
Relative stereochemistry.



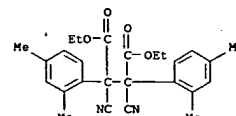
L4 ANSWER 67 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



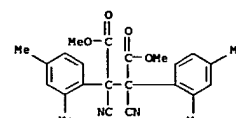
RN 70230-43-2 CAPLUS  
 CN Butanedioic acid, 2,3-dicyano-2,3-bis(4-methylphenyl)-, 1,4-diethyl ester (CA INDEX NAME)



RN 147992-58-3 CAPLUS  
 CN Butanedioic acid, 2,3-dicyano-2,3-bis(2,4-dimethylphenyl)-, diethyl ester (9CI) (CA INDEX NAME)



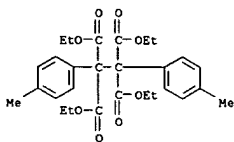
RN 147992-59-4 CAPLUS  
 CN Butanedioic acid, 2,3-dicyano-2,3-bis(2,4-dimethylphenyl)-, dimethyl ester (9CI) (CA INDEX NAME)



RN 147992-60-7 CAPLUS  
 CN 1,1,2,2-Ethanetetracarboxylic acid, 1,2-bis(4-methylphenyl)-, tetraethyl ester (9CI) (CA INDEX NAME)

## CAS ONLINE PRINTOUT

L4 ANSWER 67 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

L4 ANSWER 68 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
AN 1993:22683 CAPLUS

DN 118:22683

TI Synthesis of diethyl 2,3-dicyano-2,3-bis(p-substituted phenyl)succinates and its decomposition in styrene

AU Yang, Dilun; Qi, Chenze; Li, Zhaolong; Liu, Youcheng

CS Dep. Chem., Lanzhou Univ., Lanzhou, 730000, Peop. Rep. China

SO Gaodeng Xuebao Huaxue Xuebao (1991), 12(12), 1623-6

CODEN: KTHPDM; ISSN: 0251-0790

DT Journal

LA Chinese

OS CASREACT 118:22683

AB Di-Et 2,3-dicyano-2,3-bis(p-X-phenyl)succinates (X = MeO, Me, Cl, NO2)

were prepared by oxidative coupling of the corresponding Et (cyanophenyl)acetates, and their meso and dl isomers were separated and characterized by proton NMR, IR, x-ray, and mass spectroscopy. The thermal decomposition rates of the meso-isomers of these succinates in styrene

at 100° were greater than those of the dl-isomers except for the isomer with X = MeO. The substituent effect on the thermal decomposition rates

of these succinates followed the order: MeO &gt; Me &gt; Cl &gt; H.

IT 139257-67-3P 139257-68-4P 139257-70-8P

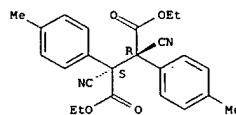
139257-71-9P

RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent) (synthesis and decomposition of)

RN 139257-67-3 CAPLUS

CN Butanedioic acid, 2,3-dicyano-2,3-bis(4-methylphenyl)-, diethyl ester, (2R,3S)-rel- (9CI) (CA INDEX NAME)

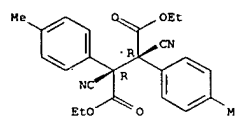
Relative stereochemistry.



RN 139257-68-4 CAPLUS

CN Butanedioic acid, 2,3-dicyano-2,3-bis(4-methylphenyl)-, diethyl ester, (2R,3R)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

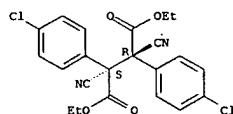


L4 ANSWER 68 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

RN 139257-70-8 CAPLUS

CN Butanedioic acid, 2,3-bis(4-chlorophenyl)-2,3-dicyano-, diethyl ester, (2R,3S)-rel- (9CI) (CA INDEX NAME)

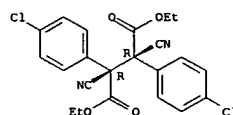
Relative stereochemistry.



RN 139257-71-9 CAPLUS

CN Butanedioic acid, 2,3-bis(4-chlorophenyl)-2,3-dicyano-, diethyl ester, (2R,3R)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



L4 ANSWER 69 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1993:21868 CAPLUS

DN 118:21868

TI Studies on the proton NMR spectra of meso and dl diethyl

2,3-dicyano-2,3-bis(p-substituted phenyl)succinates

AU Yang, Dilun; Qi, Chenze; Cui, Yuxin; Dang, Haishan; Liu, Youcheng

CS Dep. Chem., Lanzhou Univ., Lanzhou, 730000, Peop. Rep. China

SO Gaodeng Xuebao Huaxue Xuebao (1991), 12(12), 1627-30

CODEN: KTHPDM; ISSN: 0251-0790

DT Journal

LA Chinese

AB The 1H NMR of meso- and dl-diethyl 2,3-dicyano-2,3-bis(p-X-phenyl)succinates (X = OCH3, CH3, H, Cl, NO2) and 1H NMR spectra of meso- and dl-isomers of the di-Et ester with X = CH3 were determined by using a

Bruker AM 400 MHz superconducting NMR spectrometer. The corresponding proton of the substituent groups attached to the two central C atoms in the mols. are chemical shift equivalence. The average difference between o-1H absorptions of

Ph in the dl-isomers and that in meso-isomers was found to be .hivin.Δδdl-meso = -120.1 ± 6.1 Hz. All of the meso-isomers, then, have methylene (ABX3 system) and Me in the ethoxy at upfield positions, and all of the dl-isomers have that at downfield positions. .hivin.Δδdl-meso = 53.3 ± 5.9 Hz and .hivin.Δδdl-meso = 53.5 ± 5.4 Hz for A and B protons in the methylenes, and .hivin.DVdl-meso = 39.3 ± 3.5 Hz for protons in the methyls. .hivin.Δδdl-meso is the mark of influence of mol. configuration on the chemical shift.

IT 139257-67-3 139257-68-4 139257-70-8

139257-71-9

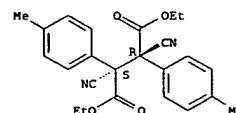
RL: PRP (Properties)

(proton NMR of, monoequivalents of methylene group in)

RN 139257-67-3 CAPLUS

CN Butanedioic acid, 2,3-dicyano-2,3-bis(4-methylphenyl)-, diethyl ester, (2R,3S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



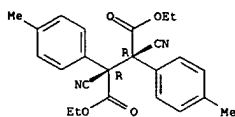
RN 139257-68-4 CAPLUS

CN Butanedioic acid, 2,3-dicyano-2,3-bis(4-methylphenyl)-, diethyl ester, (2R,3R)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

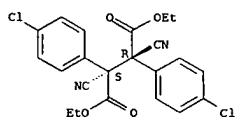
## CAS ONLINE PRINTOUT

L4 ANSWER 69 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



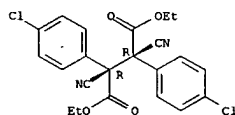
RN 139257-70-8 CAPLUS  
 CN Butanedioic acid, 2,3-bis(4-chlorophenyl)-2,3-dicyano-, diethyl ester, (2R,3S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



RN 139257-71-9 CAPLUS  
 CN Butanedioic acid, 2,3-bis(4-chlorophenyl)-2,3-dicyano-, diethyl ester, (2R,3R)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



L4 ANSWER 70 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1992:651025 CAPLUS

DN 117:251025

TI Electrochemistry of ethyl α-bromo-α-fluoro(phenyl)acetate and some ethyl α-bromo(trifluoromethylphenyl)acetates and electrochemical synthesis of the corresponding diastereoisomeric diethyl succinates

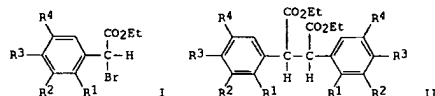
AU Mattiello, Leonardo; Rampazzo, Liliana; Sotgiu, Giovanni  
 CS Dip. ICMMPM, Univ. Roma 'La Sapienza', Rome, 00161, Italy

SO Journal of Chemical Research, Synopses (1992), (10), 321  
 CODEN: JRPSDC; ISSN: 0308-2342

DT Journal

LA English

GI



AB Electrolysis of PhCFBrCO2Et and title bromo(trifluoromethyl)phenylacetates I (R1 = CF3, R2-R4 = H; R1 = R3 = R4 = H, R2 = CF3, R1 = R3 = H, R2 = R4 = CF3; R1 = R2 = R4 = H, R3 = CF3) on reticulated vitreous carbon in DMF gave dimers PhCF(CO2Et)CF(CO2Et)Ph and II. II were obtained as mixture of meso- and DL-forms.

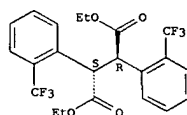
IT 144632-99-5P 144633-00-1P 144633-01-2P  
 144633-02-3P 144633-04-5P 144633-05-6P  
 144633-06-7P 144633-07-8P

RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

RN 144632-99-5 CAPLUS

CN Butanedioic acid, 2,3-bis[2-(trifluoromethyl)phenyl]-, diethyl ester, (R\*,S\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

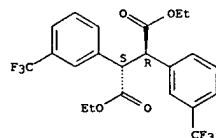


RN 144633-00-1 CAPLUS

CN Butanedioic acid, 2,3-bis[3-(trifluoromethyl)phenyl]-, diethyl ester, (R\*,S\*)- (9CI) (CA INDEX NAME)

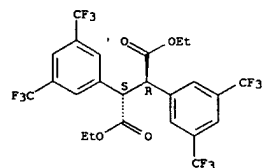
Relative stereochemistry.

L4 ANSWER 70 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



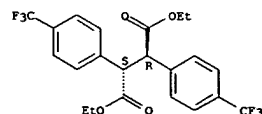
RN 144633-01-2 CAPLUS  
 CN Butanedioic acid, 2,3-bis[3-bis(trifluoromethyl)phenyl]-, diethyl ester, (R\*,S\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



RN 144633-02-3 CAPLUS  
 CN Butanedioic acid, 2,3-bis[4-(trifluoromethyl)phenyl]-, diethyl ester, (R\*,S\*)- (9CI) (CA INDEX NAME)

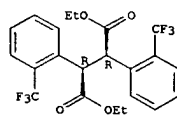
Relative stereochemistry.



RN 144633-04-5 CAPLUS  
 CN Butanedioic acid, 2,3-bis[2-(trifluoromethyl)phenyl]-, diethyl ester, (R\*,R\*)- (9CI) (CA INDEX NAME)

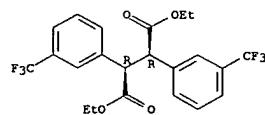
Relative stereochemistry.

L4 ANSWER 70 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



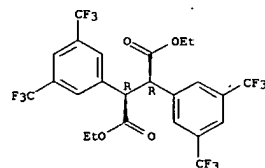
RN 144633-05-6 CAPLUS  
 CN Butanedioic acid, 2,3-bis[3-(trifluoromethyl)phenyl]-, diethyl ester, (R\*,R\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



RN 144633-06-7 CAPLUS  
 CN Butanedioic acid, 2,3-bis[3,5-bis(trifluoromethyl)phenyl]-, diethyl ester, (R\*,R\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

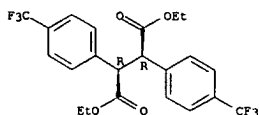


RN 144633-07-8 CAPLUS  
 CN Butanedioic acid, 2,3-bis[4-(trifluoromethyl)phenyl]-, diethyl ester, (R\*,R\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

## CAS ONLINE PRINTOUT

L4 ANSWER 70 OF 146 CAPLUS COPYRIGHT 2007 ACS on STM (Continued)



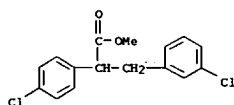
L4 ANSWER 71 OF 146 CAPLUS COPYRIGHT 2007 ACS on STM  
 AN 1992:634026 CAPLUS  
 DN 117:234026  
 TI Preparation of indenoxadiazinecarboxamides as arthropodocides  
 IN Annis, Gary David; Barnette, William Eldo; McCann, Stephen Frederick;  
 Wing, Keith Dumont  
 PA du Pont de Nemours, E. I., and Co., USA  
 SO PCT Int. Appl., 351 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9211249	A1	19920709	WO 1991-US9164	19911217
W: AU, BB, BG, BR, CA, CS, FI, HU, JP, KP, KR, LX, MG, MN, MW, NO, PL, RO, SD, SU, US				
RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FR, GA, GB, GN, GR, IT, LU, MC, ML, MR, NL, SE, SN, TD, TG				
CA 2098612	A1	19920622	CA 1991-2098612	19911217
CA 2098612	C	20020507		
AU 9191270	A	19920722	AU 1991-91270	19911217
AU 659121	B2	19950511		
EP 565574	A1	19931020	EP 1992-902235	19911217
EP 565574	B1	19950802		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, MC, NL, SE				
HU 65223	A2	19940502	HU 1993-1808	19911217
HU 213635	B	19970828		
JP 06504777	T	19940602	JP 1991-502714	19911217
BR 9107246	A	19940614	BR 1991-7246	19911217
ES 2077392	T3	19951116	ES 1992-902235	19911217
RU 2096409	C1	19971120	RU 1991-5011055	19911217
ZA 9110002	A	19930621	ZA 1991-10002	19911219
IL 100429	A	19960119	IL 1991-100429	19911219
CN 1062726	A	19920715	CN 1991-111730	19911221
CN 1034468	B	19970409		
US 5462938	A	19951031	US 1993-75534	19930618
US 5708170	A	19980113	US 1995-448086	19950523
PRAI US 1990-632438	A2	19901221		
US 1991-714401	A2	19910611		
WO 1991-US9164	A	19911217		
US 1993-75534	A3	19930618		
OS CASREACT 117:234026; MARPAT 117:234026				
GI				

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

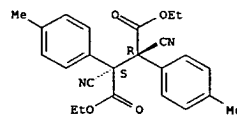
AB Title compds. QC(X)NYG and QX1C:NG [I and II; Q = Q1, Q2, etc.; A = H; E = H, C1-3 alkyl or AE = CH2, CH2CH2, O, S, SO, SO2, OCH2, SCH2, etc.; G = (substituted) Ph, -pyridyl, -pyrimidyl, -thienyl, etc.; X = O, S, NX2; X1 = Cl, Br, OR8, SR8, NR8R9; X2 = R8, OH, OR8, cyano, SO2R8, SO2Ph, etc.; Y = H, C1-6 (halo)alkyl, CH2Ph, C2-6 alkoxyalkyl, C2-6 alkenyl, C2-6 alkynyl, C1-3 alkoxy, cyano, NO2, (substituted) Ph, etc.; Z = C, N; Z1 = O, S, NR31; R2 = H, (substituted) C1-6 alkyl, C2-6 (halo) alkenyl, C2-6

L4 ANSWER 71 OF 146 CAPLUS COPYRIGHT 2007 ACS on STM (Continued)  
 (halo)alkynyl, C3-6 (halo)cycloalkyl, halo, cyano, N3, etc. or R2R2 = OCH2O, OCF2O, OCH2CH2O, etc.; R3 = H, N3, NO2, halo, C1-6 (halo) alkyl, C2-6 alkenyl, (substituted) Ph, etc.; R4, R5 = H, C1-4 alkyl, etc.; R4R5 = O, S; R8 = (substituted) C1-3 alkyl, C2-4 (halo)alkenyl, (substituted) benzyl, etc.; R9 = H, C1-4 alkyl, C1-4 haloalkyl, C2-4 alkoxyalkenyl, (substituted) Ph, -pyridyl or R8R9 = (CH2)4, (CH2)5, etc.; R31 = H, C1-4 alkyl, C2-4 alkanoyl, C2-4 alkoxyalkenyl were prepd. for use in controlling arthropods, e.g. insects, pests, acarids, etc. Thus, 5-chloro-2-(4-chlorophenyl)-2,3-dihydro-2-hydroxy-1H-inden-1-one (prepn. given) was treated with hydrazine then 4-CF3C6H4NCO to give hydrazinecarboxamide III. The latter was cyclized with CH2O and TosOH to give title compd. IV. IV at 0.55 kg/ha gave 280% control of Spodoptera frugiperda on wheat germ.  
 IT 144172-20-3P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of, as intermediate for arthropodocides)  
 RN 144172-20-3 CAPLUS  
 CN Benzenepropanoic acid, 3-chloro- $\alpha$ -(4-chlorophenyl)-, methyl ester  
 (CA INDEX NAME)



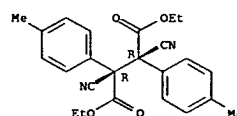
L4 ANSWER 72 OF 146 CAPLUS COPYRIGHT 2007 ACS on STM  
 AN 1992:625501 CAPLUS  
 DN 117:225501  
 TI Identification of the configurations of dl and meso-diethyl 2,3-dicyano-2,3-diphenylsuccinates and its p-(X)-substituted phenyl derivatives (X=H, CH3, OCH3) by FAB-B/E link scan metastable ion spectrometry  
 AU Li, Haiquan; Zhao, Fanzhi; Zai, Jianjun; Chen, Nengyu; Qi, Chenze; Yang, Dilun; Liu, Youcheng  
 CS Instrum. Anal. Res. Cent., Lanzhou Univ., Lanzhou, 730000, Peop. Rep. China  
 SO Gaodeng Xuexiao Huaxue Xuebao (1991), 12(11), 1540-1  
 CODEN: KTHPDM; ISSN: 0251-0790  
 DT Journal  
 LA Chinese  
 AB In this paper, three pairs of dl and meso-diethyl 2,3-dicyano-2,3-diphenylsuccinate and its derivs. of p-(X) substituted Ph succinates (X = H, CH3, OCH3) were analyzed by using FAB-B/E (magnetic field/static elec. field) linked scan metastable ion spectrometry. The effect and applicability of this method in identification of the configuration of these isomers are discussed.  
 IT 139257-67-3 139257-68-4, dl-Diethyl 2,3-dicyano-2,3-di(p-methylphenyl)succinate  
 RL: ANST (Analytical study); PROC (Process)  
 (identification of, by FAB-B/E link scan metastable ion spectrometry)  
 RN 139257-67-3 CAPLUS  
 CN Butanedioic acid, 2,3-dicyano-2,3-bis(4-methylphenyl)-, diethyl ester, (2R,3S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



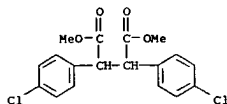
RN 139257-68-4 CAPLUS  
 CN Butanedioic acid, 2,3-dicyano-2,3-bis(4-methylphenyl)-, diethyl ester, (2R,3R)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.



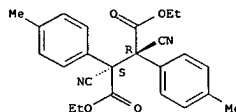
## CAS ONLINE PRINTOUT

L4 ANSWER 73 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1992:448048 CAPLUS  
 DN 117:48048  
 TI Electrochemical methoxylation of arylacetates  
 AU Kato, Mitsuko; Suzuki, Shohei; Shimamura, Miyako; Nozawa, Koohei; Kawai, Kenichi; Nakajima, Shoichi  
 CS Pac. Pharm. Sci., Hoshi Univ., Tokyo, 142, Japan  
 SO Chemical & Pharmaceutical Bulletin (1992), 40(4), 1037-8  
 CODEN: CPBTAL; ISSN: 0009-2363  
 DT Journal  
 LA English  
 OS CASREACT 117:48048  
 AB Electrochem. methoxylation at the active methylene group of phenylacetates and 1-naphthaleneacetate was conducted successfully at room temperature in methanol containing potassium iodide as electron carrier and sodium methoxide as base and methoxylating agent. Along with the monomethoxylated products, dimethoxy, hydroxy, and oxo derivs. as well as the dimers (succinates) were produced as byproducts.  
 IT 142472-20-6P  
 RL: FORM (Formation, nonpreparative); PREP (Preparation)  
 (formation of, in electrochem. methoxylation of Me arylacetate)  
 RN 142472-20-6 CAPLUS  
 CN Butanedioic acid, 2,3-bis(4-chlorophenyl)-, dimethyl ester-(9CI) (CA INDEX NAME)



L4 ANSWER 74 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1992:117741 CAPLUS  
 DN 116:117741  
 TI Crystal and molecular structures of meso- and dl-diethyl 2,3-dicyano-2,3-di(p-X-substituted phenyl)succinates  
 AU Yang, Dilun; Qi, Chenze; Zhu, Ying; Wang, Xin; Liu, Youcheng  
 CS Dep. Chem., Lanzhou Univ., Lanzhou, 730000, Peop. Rep. China  
 SO Huaxue Xuebao (1991), 49(12), 1457-66  
 CODEN: HHHFPA; ISSN: 0567-7351  
 DT Journal  
 LA Chinese  
 AB The crystal and mol. structures of meso- and dl-diethyl 2,3-dicyano-2,3-di(p-X-substituted phenyl) succinates, X:OCH3, meso (I), dl-1 (II); X = CH3 meso-(III); dl-(IV); X = Cl (V), meso-(VI), dl were determined. I decomposed when its diffraction at a were being collected.  
 II is monoclinic, space group P21/c; final R = 0.0413 for 2488 reflections. III is triclinic space group P.hivin.1; a = final R = 0.0501 for 2191 observed reflections. IV is triclinic, space group P.hivin.1; a = final R = 0.0804 for 3049 observed reflections. V is monoclinic, space group P21/c; a = final R = 0.0585 for 1460 reflections. VI is monoclinic, space group P21/c; final R = 0.0521 for 2347 reflections. Atomic coordinates are given. In comparison with normal C-C single bond (0.1544 nm), the bond length for the central C-C bond in all of the diastereoisomers shows a remarkable lengthening effect of 0.0023-0.0052 (nm) (1.4-3.4%). The bond length for the central bonds in all of meso-isomers is longer than that in corresponding dl-isomers. Among the substituted groups attached to the 2 central C atoms in the mols. of all of the diastereoisomers resp., the inter. distance between nonbonded atoms is smaller than the sum of Van der Waals radii, indicating the existence of serious steric hindrance which is mainly responsible for the lengthening effect.  
 IT 139257-67-3 139257-69-5 139257-70-8  
 139257-71-9  
 RL: FRP (Properties)  
 (crystal structure of)  
 RN 139257-67-3 CAPLUS  
 CN Butanedioic acid, 2,3-dicyano-2,3-bis(4-methylphenyl)-, diethyl ester, (2R,3S)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

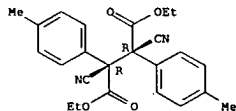


RN 139257-69-5 CAPLUS  
 CN- Butanedioic acid, 2,3-dicyano-2,3-bis(4-methylphenyl)-, diethyl ester, (R\*,R\*)-, compd. with tetrachloromethane (1:2) (9CI) (CA INDEX NAME)  
 CM 1

L4 ANSWER 74 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

CRN 139257-68-4  
 CMF C24 H24 N2 O4

Relative stereochemistry.



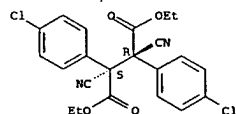
CM 2

CRN 56-23-5  
 CMF C C14



RN 139257-70-8 CAPLUS  
 CN Butanedioic acid, 2,3-bis(4-chlorophenyl)-2,3-dicyano-, diethyl ester, (2R,3S)-rel- (9CI) (CA INDEX NAME)

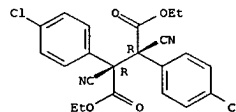
Relative stereochemistry.



RN 139257-71-9 CAPLUS  
 CN Butanedioic acid, 2,3-bis(4-chlorophenyl)-2,3-dicyano-, diethyl ester, (2R,3R)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

L4 ANSWER 74 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

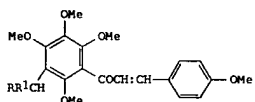


## CAS ONLINE PRINTOUT

L4 ANSWER 75 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
AN 1991:206840 CAPLUS

L4 ANSWER 75 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

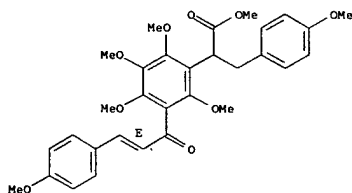
DN 114:206840  
TI Synthesis of 5'-[1-(methoxycarbonyl)-2-(p-methoxyphenyl)ethyl]- and  
5'-[2-(methoxycarbonyl)-1-(p-methoxyphenyl)ethyl]-2',3',4',6'-  
pentamethoxychalcone  
AU Obara, Heitaro; Onodera, Junichi; Tsuchiya, Mitsuhiro; Matsueda, Hiroyuki;  
Sato, Shingo; Matsuba, Shigeru  
CS Fac. Eng., Yamagata Univ., Yonezawa, 992, Japan  
SO Bulletin of the Chemical Society of Japan (1991), 64(1), 309-11  
CODEN: BCSJAB; ISSN: 0009-2673  
DT Journal  
LA English  
OS CASREACT 114:206840  
GI



I

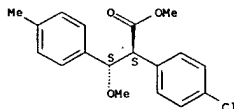
AB Pentamethoxychalcone derivs. (E)-I [R = CO<sub>2</sub>Me, R<sub>1</sub> = p-MeOC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub> and R =  
CH<sub>2</sub>CO<sub>2</sub>Me, R<sub>1</sub> = p-MeOC<sub>6</sub>H<sub>4</sub> (II)] were synthesized from pentamethoxychalcone  
and 2,3,4,6-(OMe)<sub>4</sub>CGH<sub>2</sub>OME, resp. II was completely identical with the  
methylated derivative of aglycon of safflomin C, a constituent of safflower  
(Carthamus tinctorius L).  
IT 133466-24-7P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)  
RN 133466-24-7 CAPLUS  
CN Benzenepropanoic acid, 4-methoxy-α-[2,3,4,6-tetramethoxy-5-[3-(4-  
methoxyphenyl)-1-oxo-2-propenyl]phenyl]-, methyl ester, (E)- (9CI) (CA  
INDEX NAME)

Double bond geometry as shown.



L4 ANSWER 76 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
AN 1991:142803 CAPLUS  
DN 114:142803  
TI Synthesis of methyl 2,3-diaryl-3-methoxypropanoates by oxidative  
rearrangement of chalcones using hypervalent iodine reagents in trimethyl  
orthoformate  
AU Singh, Om V.; Garg, Chandra P.; Kapoor, Ram P.  
CS Dep. Chem., Kurukshetra Univ., Kurukshetra, 132 119, India  
SO Synthesis (1990) (11), 1025-6  
CODEN: SYNTBF; ISSN: 0039-7881  
DT Journal  
LA English  
OS CASREACT 114:142803  
GI

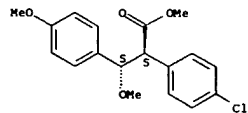
L4 ANSWER 76 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



I

AB A diastereoselective synthesis of Me 2,3-diaryl-3-methoxypropanoates I (R  
= Ph, 4-ClC<sub>6</sub>H<sub>4</sub>, R<sub>1</sub> = Ph, 4-MeOC<sub>6</sub>H<sub>4</sub>, 4-MeC<sub>6</sub>H<sub>4</sub>) by oxidative rearrangement  
of R<sub>1</sub>COCH=CH<sub>2</sub> with (diacetoxyiodo)benzene and hydroxy(tosyloxy)iodobenzene  
in CH(OMe)<sub>3</sub> is described.  
IT 132814-43-8P 132814-45-0P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)  
RN 132814-43-8 CAPLUS  
CN Benzenepropanoic acid, α-(4-chlorophenyl)-β-methoxy-4-methyl-,  
methyl ester, (R\*,R\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



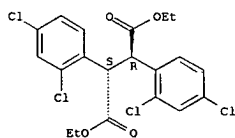
RN 132814-45-0 CAPLUS  
CN Benzenepropanoic acid, α-(4-chlorophenyl)-β-methoxy-4-methyl-,  
methyl ester, (R\*,R\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

## CAS ONLINE PRINTOUT

L4 ANSWER 77 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1991:13787 CAPLUS  
 DN 114:13787  
 T1 Electrochemistry of some ethyl  $\alpha$ -bromo(dihalophenyl) acetates and electrochemical synthesis of diastereoisomeric diethyl 2,3-bis(dihalophenyl)succinates  
 AU Mattiello, Leonardo; De Luca, Carlo; Rampazzo, Liliana  
 CS Cent. Stud. Elettrochim. Chim. Fis. Interfasi, CNR, Rome, Italy  
 SO Journal of the Chemical Society, Perkin Transactions 2: Physical Organic Chemistry (1972-1999) (1990), (6), 1041-4  
 CODEN: JCPKDH; ISSN: 0300-9580  
 DT Journal  
 LA English  
 AB Et  $\alpha$ -bromo-2,4- or -3,4-dihalogenophenylacetates (ABr), where halogen = F or Cl, are prepared and electrolyzed on reticulated vitreous C (RVC) in DMF containing Et<sub>4</sub>NClO<sub>4</sub> (0.1 mol dm<sup>-3</sup>). Potentiostatic reduction at E = -1.6 to -1.8 V vs. SCE furnishes the corresponding racemic and meso succinates. Monoesters are also isolated. An excess of racemic isomers is observed for some compds. Voltammetric expts. show practically no difference between the reduction potentials of the isomeric compds. Diastereoisomers can be distinguished by NMR spectroscopy, allowing diastereoisomeric excess to be evaluated before isolation of the single products. A mechanism involving radical intermediates cannot be excluded. On this basis, the diastereoisomeric excess can be explained by assuming different geometries for radical intermediates when the Ph group bears different substituents.  
 IT 129430-58-6P 129430-59-7P 129430-60-0P  
 129430-61-1P 129430-62-2P 129430-63-3P  
 129430-64-4P 131009-67-1P  
 RL: FORM (Formation, nonpreparative); PREP (Preparation)  
 (Formation of, in electrochem. reduction of bromodihalogenophenyl esters)  
 RN 129430-58-6 CAPLUS  
 CN Butanedioic acid, 2,3-bis(2,4-dichlorophenyl)-, diethyl ester, (R\*,S\*)-(9CI) (CA INDEX NAME)

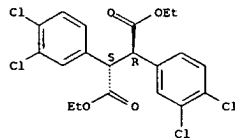
Relative stereochemistry.



RN 129430-59-7 CAPLUS  
 CN Butanedioic acid, 2,3-bis(2,4-dichlorophenyl)-, diethyl ester, (R\*,R\*)-(9CI) (CA INDEX NAME)

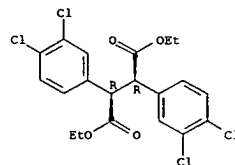
Relative stereochemistry.

L4 ANSWER 77 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



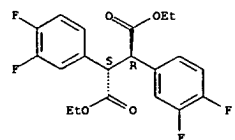
RN 129430-63-3 CAPLUS  
 CN Butanedioic acid, 2,3-bis(3,4-dichlorophenyl)-, diethyl ester, (R\*,R\*)-(9CI) (CA INDEX NAME)

Relative stereochemistry.



RN 129430-64-4 CAPLUS  
 CN Butanedioic acid, 2,3-bis(3,4-difluorophenyl)-, diethyl ester, (R\*,S\*)-(9CI) (CA INDEX NAME)

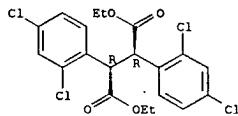
Relative stereochemistry.



RN 131009-67-1 CAPLUS  
 CN Butanedioic acid, 2,3-bis(3,4-difluorophenyl)-, diethyl ester, (R\*,R\*)-(9CI) (CA INDEX NAME)

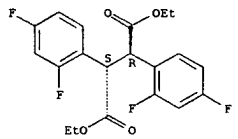
Relative stereochemistry.

L4 ANSWER 77 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



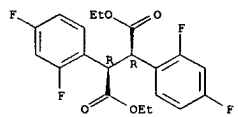
RN 129430-60-0 CAPLUS  
 CN Butanedioic acid, 2,3-bis(2,4-difluorophenyl)-, diethyl ester, (R\*,S\*)-(9CI) (CA INDEX NAME)

Relative stereochemistry.



RN 129430-61-1 CAPLUS  
 CN Butanedioic acid, 2,3-bis(2,4-difluorophenyl)-, diethyl ester, (R\*,R\*)-(9CI) (CA INDEX NAME)

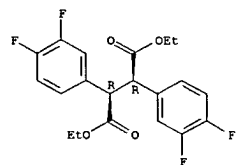
Relative stereochemistry.



RN 129430-62-2 CAPLUS  
 CN Butanedioic acid, 2,3-bis(3,4-dichlorophenyl)-, diethyl ester, (R\*,S\*)-(9CI) (CA INDEX NAME)

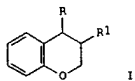
Relative stereochemistry.

L4 ANSWER 77 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

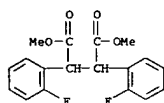


## CAS ONLINE PRINTOUT

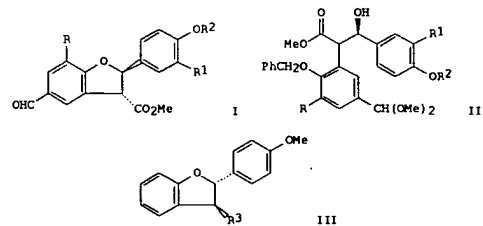
L4 ANSWER 78 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1990:198049 CAPLUS  
 DN 112:198049  
 TI Preparation of some chromans substituted at the 3- or 4-position by an aryl or benzyl group by the rhodium-catalyzed intramolecular nucleophilic substitution of the corresponding 3-(2-fluorophenyl)propan-1-ols  
 AU Houghton, Roy P.; Shervington, Leroy A.  
 CS Coll. Cardiff, Univ. Wales, Cardiff, CF1 3TB, UK  
 SO Journal of Chemical Research, Synopses (1989), (8), 239  
 CODEN: JCRSDF; ISSN: 0308-2342  
 DT Journal  
 LA English  
 OS CASREACT 112:198049  
 GI



AB [Rh( $\eta^5$ -CSEtMe4)( $\eta^6$ -C6H6)]PF6]2 catalyzed the formation of chromans (I: R = H, CH2OH, Ph, 2-FC6H4, CH2Ph; R1 = Ph, 4-O2NC6H4, 4-MeOC6H4, CH2OH, H) from 2-FC6H4CH2CH(R)CH2OH in MeNO2-Me2CO.  
 IT 126348-14-9P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 RN (preparation and reduction of)  
 CN Butanedioic acid, 2,3-bis(2-fluorophenyl)-, dimethyl ester (9CI) (CA INDEX NAME)



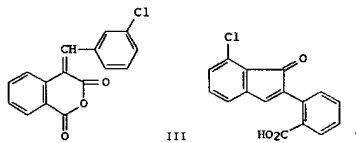
L4 ANSWER 80 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1988:473717 CAPLUS  
 DN 109:73717  
 TI Stereoselective synthesis of the dihydrobenzo[b]furan segments of the ephedradine alkaloids  
 AU Baker, Raymond; Cooke, Nigel G.; Humphrey, Guy R.; Wright, Stanley H. B.; Hirschfield, Jordan  
 CS Dep. Chem., Univ. Southampton, Southampton, SO9 5NH, UK  
 SO Journal of the Chemical Society, Chemical Communications (1987), (14), 1102-4  
 CODEN: JCCCAT; ISSN: 0022-4936  
 DT Journal  
 LA English  
 OS CASREACT 109:73717  
 GI



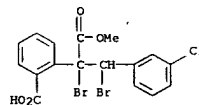
AB Dihydrobenzofuran derivs. I (R, R1 = H, MeO; R2 = H, Me) were prepared via Lewis-catalyzed cyclization of phenol substituted  $\beta$ -hydroxy esters II as key step: the use of chiral oxazolidinones in the aldol reaction has formed the basis of enantiospecific syntheses of III (R3 = CO2Me, CH2OH).  
 IT 115439-21-9P 115439-22-0P 115439-23-1P  
 115439-24-2P 115439-25-3P 115439-26-4P  
 115439-27-5P 115439-28-6P 115439-29-7P  
 115465-67-3P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 RN (preparation and intramol. cyclization of, benzofuran derivative from)  
 RN 115439-21-9 CAPLUS  
 CN Benzenepropanoic acid,  $\alpha$ -[5-(dimethoxymethyl)-2-(phenylmethoxy)phenyl]- $\beta$ ,4-dihydroxy-, methyl ester, (R\*,R\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

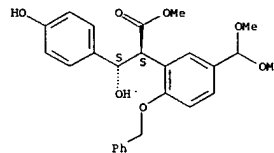
L4 ANSWER 79 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1990:178248 CAPLUS  
 DN 112:178248  
 TI Synthesis and some reactions of [Z]-methyl  $\alpha$ -[2-o-carboxyphenyl]-m-chlorocinnamate  
 AU Mahmoud, M. R.  
 CS Fac. Sci., Ain Shams Univ., Cairo, Egypt  
 SO Journal of the Chemical Society of Pakistan (1989), 11(2), 144-50  
 CODEN: JCSPDF; ISSN: 0253-5106  
 DT Journal  
 LA English  
 OS CASREACT 112:178248  
 GI



AB (Z)-2-HO2CC6H4C(CO2R):CHC6H4Cl-3 (I: R = Me) (II) was heated with aqueous NaOH to give the dibasic acid I (R = H), which was converted to the cyclic anhydrides (Z)-III (IV) and (E)-III. IV was cyclized with AlCl3 to give indenyl acid V. Bromination, lactonization and cyclization of II was studied. The reaction of II and IV with primary amines, hydroxylamine, hydrazine, Ph hydrazine and p-nitrophenylhydrazine were also investigated.  
 IT 126558-65-4P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 RN (preparation of)  
 RN 126558-65-4 CAPLUS  
 CN Benzenepropanoic acid,  $\alpha$ , $\beta$ -dibromo- $\alpha$ -(2-carboxyphenyl)-3-chloro-, monomethyl ester (9CI) (CA INDEX NAME)

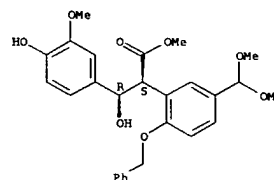


L4 ANSWER 80 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



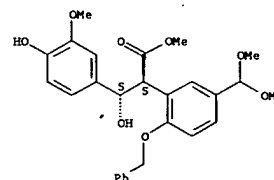
RN 115439-22-0 CAPLUS  
 CN Benzenepropanoic acid,  $\alpha$ -[5-(dimethoxymethyl)-2-(phenylmethoxy)phenyl]- $\beta$ ,4-dihydroxy-3-methoxy-, methyl ester, (R\*,S\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



RN 115439-23-1 CAPLUS  
 CN Benzenepropanoic acid,  $\alpha$ -[5-(dimethoxymethyl)-2-(phenylmethoxy)phenyl]- $\beta$ ,4-dihydroxy-3-methoxy-, methyl ester, (R\*,R\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

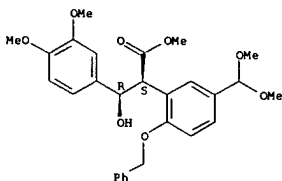


RN 115439-24-2 CAPLUS  
 CN Benzenepropanoic acid,  $\alpha$ -[5-(dimethoxymethyl)-2-

# CAS ONLINE PRINTOUT

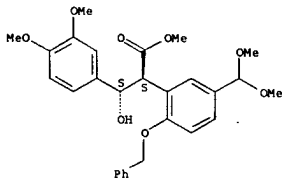
L4 ANSWER 80 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
(phenylmethoxy)phenyl]- $\beta$ -hydroxy-3,4-dimethoxy-, methyl ester, (R\*,S\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



RN 115439-25-3 CAPLUS  
CN Benzenepropanoic acid,  $\alpha$ -[5-(dimethoxymethyl)-2-(phenylmethoxy)phenyl]- $\beta$ -hydroxy-3,4-dimethoxy-, methyl ester, (R\*,R\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



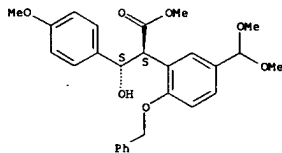
RN 115439-26-4 CAPLUS  
CN Benzenepropanoic acid,  $\alpha$ -[5-(dimethoxymethyl)-3-methoxy-2-(phenylmethoxy)phenyl]- $\beta$ ,4-dihydroxy-, methyl ester, (R\*,S\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



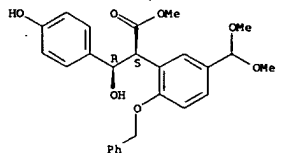
L4 ANSWER 80 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
(phenylmethoxy)phenyl]- $\beta$ -hydroxy-4-methoxy-, methyl ester, (R\*,R\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

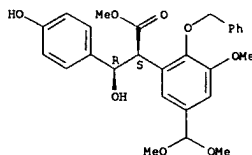


RN 115465-67-3 CAPLUS  
CN Benzenepropanoic acid,  $\alpha$ -[5-(dimethoxymethyl)-2-(phenylmethoxy)phenyl]- $\beta$ ,4-dihydroxy-, methyl ester, (R\*,S\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

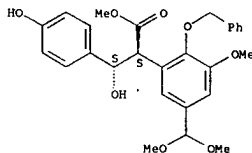


L4 ANSWER 80 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



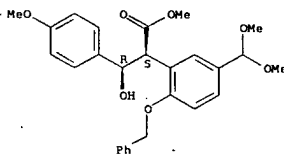
RN 115439-27-5 CAPLUS  
CN Benzenepropanoic acid,  $\alpha$ -[5-(dimethoxymethyl)-3-methoxy-2-(phenylmethoxy)phenyl]- $\beta$ ,4-dihydroxy-, methyl ester, (R\*,R\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



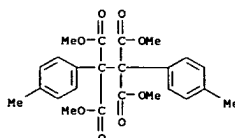
RN 115439-28-6 CAPLUS  
CN Benzenepropanoic acid,  $\alpha$ -[5-(dimethoxymethyl)-2-(phenylmethoxy)phenyl]- $\beta$ -hydroxy-4-methoxy-, methyl ester, (R\*,S\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

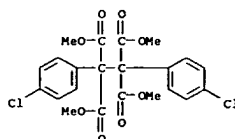


RN 115439-29-7 CAPLUS  
CN Benzenepropanoic acid,  $\alpha$ -[5-(dimethoxymethyl)-2-

L4 ANSWER 81 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
AN 1988:131218 CAPLUS  
DN 108:131218  
TI Electrosynthesis of organic compounds. VI. Synthesis of tetramethyl ethane-1,1,2,2-tetracarboxylate and its derivatives  
AU Ismail, M. T.; Makhlof, M. Th.; Abdel-Wahab, A. A.  
CS Fac. Sci., Assiut Univ., Assiut, Egypt  
SO Bulletin of the Faculty of Science, Assiut University (1986), 15(1), 11-16  
CODEN: BSAUDW; ISSN: 0366-4740  
DT Journal  
LA English  
AB Electrochem. synthesis of the title esters (e.g., tetra-Me butane-2,2,3,3-tetracarboxylate, tetra-Me 1,2-bis(4-chlorophenyl)ethane-1,1,2,2-tetracarboxylate) was achieved in reasonable yields by electrolyzing di-Me bromomalonate and related compds. in absolute MeOH containing 0.1M Ba(ClO4)2 as electrolyte on nickel cathode at controlled potential. A suitable mechanism involving the formation of malonate carbanion intermediate is suggested.  
IT 34404-72-3P 34404-73-4P  
RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)  
RN 34404-72-3 CAPLUS  
CN 1,1,2,2-Ethanetetracarboxylic acid, 1,2-bis(4-methylphenyl)-, tetramethyl ester (9CI) (CA INDEX NAME)

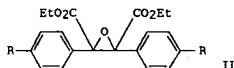


RN 34404-73-4 CAPLUS  
CN 1,1,2,2-Ethanetetracarboxylic acid, 1,2-bis(4-chlorophenyl)-, tetramethyl ester (9CI) (CA INDEX NAME)



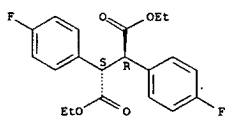
## CAS ONLINE PRINTOUT

L4 ANSWER 82 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1988:131203 CAPLUS  
 DN 108:131203  
 TI Electrochemical synthesis of diethyl 2,3-bis-(p-halophenyl)succinates:  
 reduction of  $\alpha$ -bromo-p-halophenylacetates  
 AU De Luca, Carlo; Inesi, Achille; Rampazzo, Liliana  
 CS Cent. Stud. Elettrochim. Chim. Fis. Interfasi, CNR, Rome, Italy  
 SO Journal of the Chemical Society, Perkin Transactions 2: Physical Organic  
 Chemistry (1972-1999) (1987), (7), 847-52  
 CODEN: JCPKBE; ISSN: 0300-9580  
 DT Journal  
 LA English  
 OS CASREACT 108:131203  
 GI



AB Electrochem. reduction of 4-RC6H4CHBrCO2Et (I; R = Br, Cl, F) gave the (+)- and meso-isomers of 4-RC6H4CH(CO2Et)CH(CO2Et)C6H4R-4, epoxides II, and 4-RC6H4CH2CO2Et. The (+)- and meso-isomers were identified by NMR spectroscopy.  
 IT 113387-87-4P 113387-88-5P 113387-90-9P  
 113387-91-0P 113387-93-2P 113387-94-3P  
 RL: FORM: (Formation, nonpreparative); PREP (Preparation)  
 (formation of, in electrochem. reduction of bromo(halophenyl)acetate)  
 RN 113387-87-4 CAPLUS  
 CN Butanedioic acid, 2,3-bis(4-fluorophenyl)-, diethyl ester, (R\*,S\*)- (9CI)  
 (CA INDEX NAME)

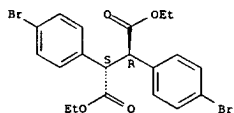
Relative stereochemistry.



RN 113387-88-5 CAPLUS  
 CN Butanedioic acid, 2,3-bis(4-fluorophenyl)-, diethyl ester, (R\*,R\*)- (9CI)  
 (CA INDEX NAME)

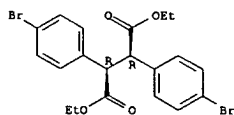
Relative stereochemistry.

L4 ANSWER 82 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

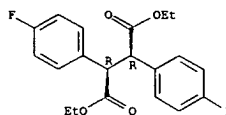


RN 113387-94-3 CAPLUS  
 CN Butanedioic acid, 2,3-bis(4-bromophenyl)-, diethyl ester, (R\*,R\*)- (9CI)  
 (CA INDEX NAME)

Relative stereochemistry.

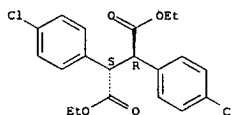


L4 ANSWER 82 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



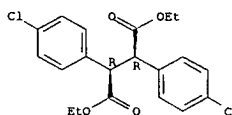
RN 113387-90-9 CAPLUS  
 CN Butanedioic acid, 2,3-bis(4-chlorophenyl)-, diethyl ester, (R\*,S\*)- (9CI)  
 (CA INDEX NAME)

Relative stereochemistry.



RN 113387-91-0 CAPLUS  
 CN Butanedioic acid, 2,3-bis(4-chlorophenyl)-, diethyl ester, (R\*,R\*)- (9CI)  
 (CA INDEX NAME)

Relative stereochemistry.

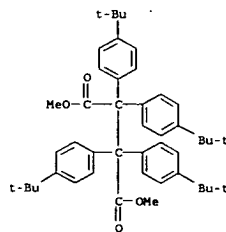


RN 113387-93-2 CAPLUS  
 CN Butanedioic acid, 2,3-bis(4-bromophenyl)-, diethyl ester, (R\*,S\*)- (9CI)  
 (CA INDEX NAME)

Relative stereochemistry.

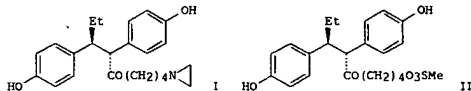
L4 ANSWER 83 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1987:635925 CAPLUS  
 DN 107:235925  
 TI The different recombinations of diphenylmethyl radicals, Ph2C(·)R  
 (R = CMe3, CN, CO2R', COR')  
 AU Neumann, W. P.; Stapel, R.  
 CS Univ. Dortmund, Dortmund, D-4600/50, Fed. Rep. Ger.  
 SO NATO ASI Series, Series C: Mathematical and Physical Sciences (1986),  
 189 (Substituent Eff. Radical Chem.), 219-22  
 CODEN: NSCSDW; ISSN: 0258-2023  
 DT Journal  
 LA English  
 AB ESR data for radicals R21CR• (R1 = Ph, p-anisyl, p-tert-butylphenyl; R  
 = Me3C, SiMe3, CO2Me, CO2Et, CO2CH2Ph, CHO, C(=O)Ph, etc.) and dissociation  
 enthalpies of their dimers are measured.  
 IT 104505-55-7  
 RL: PRP (Properties)  
 (dissociation enthalpy of)  
 RN 104505-55-7 CAPLUS  
 CN Butanedioic acid, tetrakis[4-(1,1-dimethylethyl)phenyl]-, dimethyl ester  
 (9CI) (CA INDEX NAME)



## CAS ONLINE PRINTOUT

L4 ANSWER 84 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1987:196146 CAPLUS  
 DN 106:196146  
 TI Estrogenic affinity labels: synthesis, irreversible receptor binding, and bioactivity of aziridine-substituted hexestrol derivatives  
 AU Zablocki, Jeffery A.; Katzenellenbogen, John A.; Carlson, Kathryn E.; Norman, M. J.; Katzenellenbogen, Benita S.  
 CS Dep. Chem., Univ. Illinois, Urbana, IL, 61801, USA  
 SO Journal of Medicinal Chemistry (1987), 30(5), 829-38  
 CODEN: JMCMAR; ISSN: 0022-2623  
 DT Journal  
 LA English  
 OS CASREACT 106:196146  
 GI



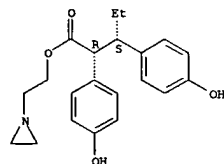
AB Aziridine derivs. (e.g., I) of the potent nonsteroidal estrogen hexestrol [(3R\*,4S\*)-3,4-bis(4-hydroxyphenyl)hexane] were prepared as affinity labels for the estrogen receptor that are estrogen agonists, rather than antagonists. Thus, the mesylate II was treated with ethylenimine to give 50% I. In these compds. the hexestrol ligand and the aziridine are linked by a carbonyl group (ketone or ester), a thio ether, or a methylene chain. The apparent competitive binding affinity of these derivs. for the estrogen receptor ranges from 1.8% to 25% that of estradiol, and most of them bind in a time-dependent, irreversible manner with the receptor, although the rate and efficiency of this binding vary widely, often with relatively small changes in structure. This is consistent with the irreversible attachment requiring a precise alignment of activating and reacting residues in the binding site of the receptor. The estrogenic and antiestrogenic activity of these aziridine derivs. was investigated in MCF-7 human breast cancer cells. Most of the compds. are agonists, with one being an antagonist. I has the most ideal behavior of the estrogenic affinity labeling agents prepared. It is an agonist, and it binds to receptor irreversibly, efficiently, and quite rapidly.

IT 107036-27-1P 107036-28-2P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation and amination of, with ethylenimine)  
 RN 107036-27-1 CAPLUS  
 CN Benzenepropanoic acid,  $\beta$ -ethyl-4-hydroxy- $\alpha$ -(4-hydroxyphenyl)-, 3-bromopropyl ester, (R\*,S\*)- (9CI) (CA INDEX NAME)

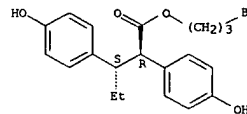
Relative stereochemistry.

L4 ANSWER 84 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 CN Benzenepropanoic acid,  $\beta$ -ethyl-4-hydroxy- $\alpha$ -(4-hydroxyphenyl)-, 2-(1-aziridinyl)ethyl ester, (R\*,S\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

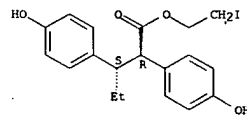


L4 ANSWER 84 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



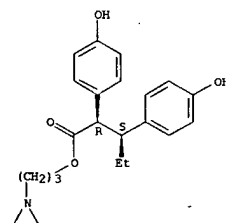
RN 107036-28-2 CAPLUS  
 CN Benzenepropanoic acid,  $\beta$ -ethyl-4-hydroxy- $\alpha$ -(4-hydroxyphenyl)-, 2-iodoethyl ester, (R\*,S\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



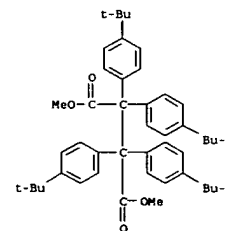
IT 107036-09-9P 107036-10-2P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and estrogen receptor binding affinity and agonist activity of)  
 RN 107036-09-9 CAPLUS  
 CN Benzenepropanoic acid,  $\beta$ -ethyl-4-hydroxy- $\alpha$ -(4-hydroxyphenyl)-, 3-(1-aziridinyl)propyl ester, (R\*,S\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



RN 107036-10-2 CAPLUS

L4 ANSWER 85 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1987:66855 CAPLUS  
 DN 106:66855  
 TI Sterically hindered free radicals. XVI. The existence of tetraphenylsuccinic acid and its esters, and the structure of the dimers of the diarylmethyl radicals R2C=X (X = CO2R1, CN, COR1)  
 AU Neumann, Wilhelm P.; Stapel, Ralf  
 CS Univ. Dortmund, Dortmund, D-4600/50, Fed. Rep. Ger.  
 SO Chemische Berichte (1986), 119(11), 3422-31  
 CODEN: CHBEAM; ISSN: 0009-2940  
 DT Journal  
 LA German  
 OS CASREACT 106:66855  
 AB The coupling of Ph2CBrCO2Et in refluxing C6H6 containing Cu powder followed by rearrangement and deesterification gave 1,4-[Ph2C(CO2H)]C6H4. Also prepared were MeO2C(C6H4CMe3-4)2C(C6H4CMe3-4)2CO2Me, Ph2C:CROCPPh2COR (R = H, Me, Ph), and di-Me 9,9'-bifluorene-9,9'-dicarboxylate. The ESR of R22C=R3 (R2 = Ph, 4-Me3CC6H4; R3 = CO2Me, cyano, CHO, Ac, Bz) and heats of dissociation of the radical dimers were determined  
 IT 104505-55-7P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 104505-55-7 CAPLUS  
 CN Butanedioic acid, tetrakis[4-(1,1-dimethylethyl)phenyl]-, dimethyl ester (9CI) (CA INDEX NAME)



## 3

L.



A



**L**

**L**

A

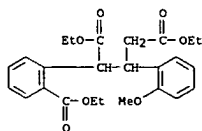
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**A**

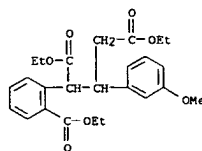
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## CAS ONLINE PRINTOUT

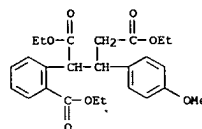
L4 ANSWER 88 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



IT 94146-63-1P 94146-64-2P 94146-65-3P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (preparation, hydrolysis, and Dieckmann cyclization of)  
 RN 94146-63-1 CAPLUS  
 CN Pentanedioic acid, 2-[2-(ethoxycarbonyl)phenyl]-3-(3-methoxyphenyl)-,  
 diethyl ester (9CI) (CA INDEX NAME)



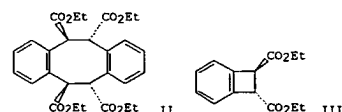
RN 94146-64-2 CAPLUS  
 CN Pentanedioic acid, 2-[2-(ethoxycarbonyl)phenyl]-3-(4-methoxyphenyl)-,  
 diethyl ester (9CI) (CA INDEX NAME)



RN 94146-65-3 CAPLUS  
 CN Pentanedioic acid, 3-(3,4-dimethoxyphenyl)-2-[2-(ethoxycarbonyl)phenyl]-,  
 diethyl ester (9CI) (CA INDEX NAME)

L4 ANSWER 89 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

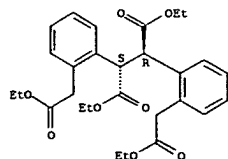
AN 1984:120280 CAPLUS  
 DN 100:120280  
 OREF 100:18285a,18288a  
 TI Electrochemical synthesis of 5,6,11,12-tetrahydro-5,6,11,12-  
 tetrakis(ethoxycarbonyl)dibenzo[a,e]cyclooctene  
 AU De Luca, Carlo; Inesi, Achille; Rampasso, Liliana  
 CS Cent. Stud. Elettrochim. Chim. Fis. Interfasi, CNR Roma, Rome, Italy  
 SO Journal of the Chemical Society, Perkin Transactions 2: Physical Organic  
 Chemistry (1972-1999) (1983), (12), 1821-5  
 CODEN: JCPKDH; ISSN: 0300-9580  
 DT Journal  
 LA English  
 GI



AB Electrochem. reduction of 1,2-(EtO2CCHBr)2C6H4 (I) in DMF at a vitreous C  
 electrode gave 15% 1,2-(EtO2CCH2)2C6H4, 16% title compound (II), 16%  
 [o-EtO2CCH2C6H4CH(CO2Et)]2 and 20% polymer as the major products. Only  
 approx. 7% of benzocyclobutene III was formed. The intermediate formation  
 of a,a'-bis(ethoxycarbonyl)-o-quinodimethane, whose behavior  
 resembles that of a biradical, through the 2 electron electrochem.  
 reductive elimination of the Br- ions from I, is the key step in this  
 reaction.

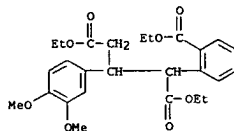
IT 89215-22-5P 89215-23-6P 89215-24-7P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 89215-22-5 CAPLUS  
 CN Butanedioic acid, 2,3-bis[2-(2-ethoxy-2-oxoethyl)phenyl]-, diethyl ester,  
 (R\*,R\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



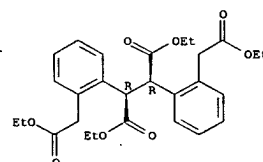
RN 89215-23-6 CAPLUS  
 CN Butanedioic acid, 2,3-bis[2-(2-ethoxy-2-oxoethyl)phenyl]-, diethyl ester,  
 (R\*,R\*)- (9CI) (CA INDEX NAME)

L4 ANSWER 88 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

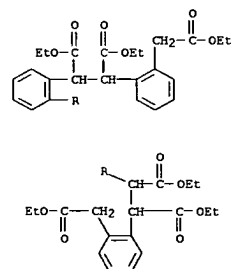


L4 ANSWER 89 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

Relative stereochemistry.

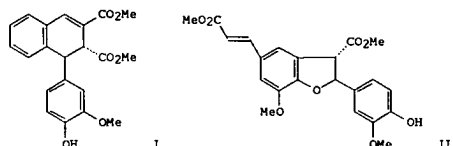


RN 89215-24-7 CAPLUS  
 CN 1,2-Benzenedipropionic acid, 8,8'-bis(ethoxycarbonyl)-  
 a,a'-bis[2-(2-ethoxy-2-oxoethyl)phenyl]-, diethyl ester,  
 (aR\*,a'R\*,aR\*,a'R\*)- (9CI) (CA INDEX NAME)

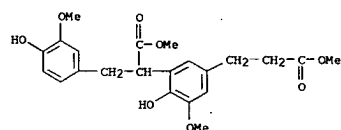


## CAS ONLINE PRINTOUT

L4 ANSWER 90 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1983:453253 CAPLUS  
 DN 99:53253  
 OREF 99:8309a  
 TI The sensitized photooxidation of methyl (E)-ferulate  
 AU Kuo, Yueh Hsiung; Kuo, Pao Chu; Lin, Sheng Tsair  
 CS Chem., Natl. Taiwan Univ., Taipei, Taiwan  
 SO Proceedings of the National Science Council, Republic of China, Part B:  
 Basic Science (1983), 7(1), 28-34  
 CODEN: PCRCO3; ISSN: 0253-6870  
 DT Journal  
 LA English  
 GI



AB The title reaction gave 4 products, Me (Z)-ferulate, vanillin, I, and II.  
 Product structures were elucidated by chemical derivs.  
 IT 86069-39-8P 86069-40-1P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 86069-39-8 CAPLUS  
 CN Benzenepropanoic acid, 4-hydroxy- $\alpha$ -[2-hydroxy-3-methoxy-5-(3-methoxy-3-oxopropyl)phenyl]-3-methoxy-, methyl ester (CA INDEX NAME)



RN 86069-40-1 CAPLUS  
 CN Benzenepropanoic acid, 4-(acetyloxy)- $\alpha$ -[2-(acetyloxy)-3-methoxy-5-(3-methoxy-3-oxopropyl)phenyl]-3-methoxy-, methyl ester (CA INDEX NAME)

L4 ANSWER 91 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1983:218134 CAPLUS  
 DN 98:218134  
 OREF 98:33153a,33156a  
 TI Fluorescent chelates and labeled specific binding reagents prepared from them  
 IN Hinshaw, Jerald Clyde; Toner, John Luke; Reynolds, George Arthur  
 PA Eastman Kodak Co., USA  
 SO Eur. Pat. Appl., 50 pp.  
 CODEN: EPXKDW  
 DT Patent  
 LA English  
 FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 68875	A2	19830105	EP 1982-303380	19820628
EP 68875	A3	19830504		
EP 68875	B1	19871223		

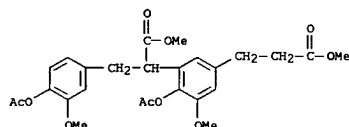
CA	DE, FR, GB	A1	19860527	CA 1982-405050	19820611
JP 58008783	A	19830118	JP 1982-112653	19820701	
JP 06014042	B	19940223			
US 4637988	A	19870120	US 1986-825693	19860203	
US 4670572	A	19870602	US 1986-825009	19860203	
US 4801722	A	19890131	US 1987-7024	19870127	
US 4794191	A	19881227	US 1988-151847	19880203	
US 4859777	A	19890822	US 1988-285163	19881216	

PRAI US 1981-279398 A 19810701  
 US 1986-825693 A3 19860203  
 US 1987-7024 A3 19870127  
 US 1987-40385 A3 19870420  
 OS CASREACT 98:218134; MARPAT 98:218134  
 AB Stable fluorescent chelates are manufactured comprising a complex of a lanthanide metal and a chelating agent that includes a moiety that is a triplet sensitizer having a triplet energy greater than that of the lanthanide metal and at least 2 heteroatom-containing groups that form coordinate complexes with lanthanide metal and a 3rd heteroatom-containing group or heteroatom in or appended to the triplet sensitizer. Thus, a benzoylhydroxybis(N,N-bis(carboxylate)aminomethyl)coumarin-Eu chelate was used with an anal. test element containing ovalbumin and normal rabbit serum and the fluorescence signal was a function of the concentration of the Eu chelate. The chelate is useful to label a variety of physiol. active materials by binding them to the complex by adsorption or by covalent bonding. The materials are especially useful in specific binding assay methods.

IT 85929-38-0P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation and hydrolysis of)  
 RN 85929-38-0 CAPLUS

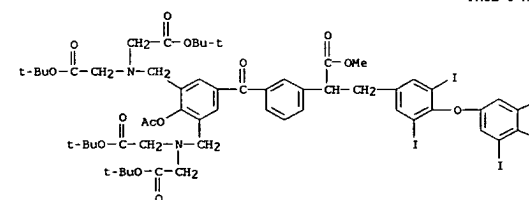
CN Benzenepropanoic acid,  $\alpha$ -[3-[4-(acetyloxy)-3,5-bis[[bis(2-(1,1-dimethylethoxy)-2-oxoethyl)amino]methyl]benzoyl]phenyl]-4-(4-hydroxy-3,5-diiodophenoxy)-3,5-diiodo-, methyl ester (CA INDEX NAME)

L4 ANSWER 90 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



L4 ANSWER 91 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

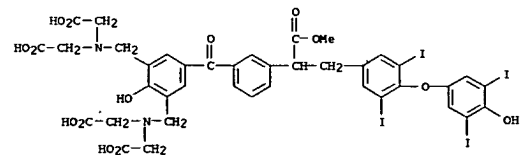
PAGE 1-A



PAGE 1-B



IT 85916-19-4P  
 RL: PREP (Preparation)  
 (preparation of)  
 RN 85916-19-4 CAPLUS  
 CN Benzenepropanoic acid,  $\alpha$ -[3-[3,5-bis[[bis(carboxymethyl)amino]methyl]-4-hydroxybenzoyl]phenyl]-4-(4-hydroxy-3,5-diiodophenoxy)-3,5-diiodo-,  $\alpha$ -methyl ester (9CI) (CA INDEX NAME)



## CAS ONLINE PRINTOUT

L4 ANSWER 92 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
AN 1983:88867 CAPLUS  
DN 98:88867

OREF 98:13547a,13550a

TI Thermal, photochemical, and acid-catalyzed rearrangements of the spiro dimer of  $\alpha,\alpha'$ -bis(methoxycarbonyl)- $\alpha$ -quinodimethane. X-ray crystal structure of trans,trans-tetrakis(methoxycarbonyl)dibenzo[a,e]cyclooctene

AU Jones, David W.; McDonald, Walter S.

CS Dep. Org. Chem., Univ. Leeds, Leeds, LS2 9JT, UK

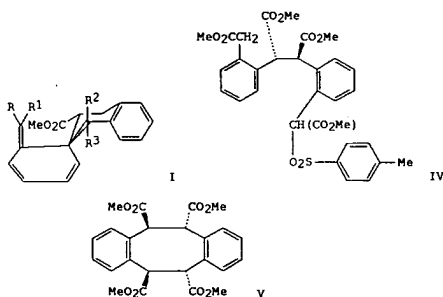
SO Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (1982), (9), 2257-63

CODEN: JCPRB4; ISSN: 0300-922X

DT Journal

LA English

GI



AB The stereochem. of the title spiro-dimer I ( $R = R_2 = \text{CO}_2\text{Me}$ ,  $R_1 = R_3 = \text{H}$ ) (III) was determined by comparison of its properties with those of the isomers I ( $R = R_3 = \text{CO}_2\text{Me}$ ,  $R_1 = R_2 = \text{H}$  (III);  $R = R_2 = \text{H}$ ,  $R_1 = R_3 = \text{CO}_2\text{Me}$ ), prepared by photolysis of II. E.g., under acidic conditions II and III gave the epimeric diphenylethane IV with 4-MeC<sub>6</sub>H<sub>4</sub>SO<sub>3</sub>H; this shows II and III differ in configuration at the benzylic C atom adjacent to the spiro center. The structure of the dibenzocyclooctene V, prepared by thermal rearrangement of II, was determined by x-ray crystallog. anal.; this contradicts a previous report (Bloomquist A. J.; et al., 1960).

IT 84198-39-0P 84275-76-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and hydrogenolysis of)

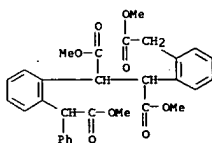
RN 84198-39-0 CAPLUS

L4 ANSWER 92 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of)

RN 84198-36-7 CAPLUS

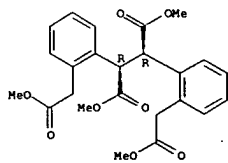
CN 1,2-Benzenediacetic acid,  $\alpha$ -[2-methoxy-1-[2-(2-methoxy-2-oxoethyl)phenyl]-2-oxoethyl]- $\alpha'$ -phenyl-, dimethyl ester (9CI) (CA INDEX NAME)



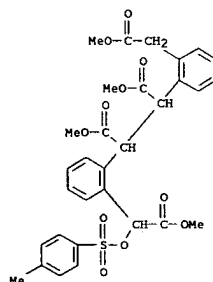
RN 84198-40-3 CAPLUS

CN 1,2-Benzenediacetic acid,  $\alpha$ -[2-methoxy-1-[2-(2-methoxy-2-oxoethyl)phenyl]-2-oxoethyl]-, dimethyl ester, ( $R^*, R^*$ )- (9CI) (CA INDEX NAME)

Relative stereochemistry.

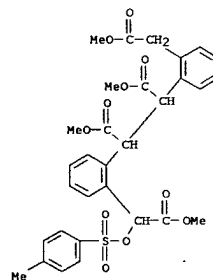


L4 ANSWER 92 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
CN 1,2-Benzenediacetic acid,  $\alpha$ -[2-methoxy-1-[2-(2-methoxy-2-oxoethyl)phenyl]-2-oxoethyl]- $\alpha'$ -[[[4-methylphenyl)sulfonyl]oxy]-, dimethyl ester, [ $\alpha R^*(R^*), \alpha'S^*$ ]- (9CI) (CA INDEX NAME)



RN 84275-76-3 CAPLUS

CN 1,2-Benzenediacetic acid,  $\alpha$ -[2-methoxy-1-[2-(2-methoxy-2-oxoethyl)phenyl]-2-oxoethyl]- $\alpha'$ -[[[4-methylphenyl)sulfonyl]oxy]-, dimethyl ester, [ $\alpha R^*(R^*), \alpha'S^*$ ]- (9CI) (CA INDEX NAME)



IT 84198-36-7P 84198-40-3P

L4 ANSWER 93 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
AN 1982:556714 CAPLUS

DN 97:156714

OREF 97:25985a,25988a

TI (2R\*,3S\*)-1-[125I]iodo-2,3-bis(4-hydroxyphenyl)pentane

[(125I)iodonorehexestrol], and (2R\*,3S\*)-1-[77Br]bromo-2,3-bis(4-hydroxyphenyl)pentane [(77Br)bromonorehexestrol], two  $\gamma$ -emitting estrogens that show receptor-mediated uptake by target tissues in vivo

Landvater, Scott W.; Katzenellenbogen, John A.; McElvany, Karen D.; Welch, Michael J.

CS Sch. Chem. Sci., Univ. Illinois, Urbana, IL, 61801, USA

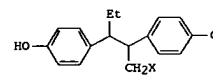
SO Journal of Medicinal Chemistry (1982), 25(11), 1307-12

CODEN: JMCMAR; ISSN: 0022-2623

DT Journal

LA English

GI



I, X=I  
II, X=Br

AB Two  $\gamma$ -emitting estrogen analogs, (2R\*,3S\*)-1-[125I]iodo-2,3-bis(4-hydroxyphenyl)pentane (I) [83181-42-4] and (2R\*,3S\*)-1-[77Br]bromo-2,3-bis(4-hydroxyphenyl)pentane (II) [83181-43-5] were prepared by halide ion displacement on a labile trifluoromethanesulfonate derivative of a suitably protected precursor, followed by mild acid deprotection. Although halide displacement on a more stable tris(trifluoromethanesulfonate) derivative was successful, the basic conditions required for deprotection of this precursor resulted in destruction of the products by a base-induced spiroelimination reaction. In immature female rats, both of these halonorehexestrols demonstrated preferential uptake by the uterus that could be selectively blocked by coadministration of a large dose of unlabeled estradiol. In a double label comparison with 16 $\alpha$ -[125I]iodo-17 $\beta$ -estradiol, the uterine uptake of II was notably less selective. Stability studies in vitro and in vivo indicated that both I and II are quite labile, and this lability compromises the selectivity of their uptake by estrogen target tissues in vivo. p-Hydroxyphenethyl halides are known to be unusually prone to a base-catalyzed solvolysis, via cyclization of the phenolate to a spirocyclohexadienone intermediate. This unusual solvolytic mechanism may contribute to the lability of these halonorehexestrols in vivo.

IT 83213-76-7

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with Et vinyl ether)

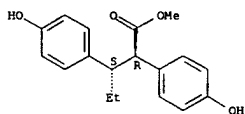
RN 83213-76-7 CAPLUS

CN Benzenepropanoic acid,  $\beta$ -ethyl-4-hydroxy- $\alpha$ -(4-hydroxyphenyl)-, methyl ester, ( $R^*, S^*$ )- (9CI) (CA INDEX NAME)

Relative stereochemistry.

## CAS ONLINE PRINTOUT

L4 ANSWER 93 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



L4 ANSWER 94 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1982:527210 CAPLUS

DN 97:127210

OREF 97:21105a,21108a

TI Uncatalyzed insertion reaction of isocyanides into a carbon-sulfur bond

AU Morel, G.; Marchand, E.; Nguyen Thi, K. H.; Foucaud, A.

CS Groupe Physiochim. Struct., Univ. Rennes, Rennes, 35042, Fr.

SO Tetrahedron Letters (1982), 23(19), 2023-6

CODEN: TELEAY; ISSN: 0040-4039

DT Journal

LA English

OS CASREACT 97:127210

AB RMC (I: R = Me3C, tert-octyl) with R1C(CN) (SR2)CO2Me (II: R1 = Ph2C(CN),

R2 = Me, Ph, PhCH2; R1 = 5-cyano-fluorenyl, (PhCH2)2C(CN), PhMe(CN),

PhCEt(CN), R2 = Me] at room temperature for 17-114 h gave 36-84%

RN:C(SR2)CR1(CN)CO2Me (III). III (R2 = Ph) are unstable and

rearrange at room temperature to give E- and Z-RN(CO2Me)C(SR2):CR1(CN) (E-

and

Z-IV) in 6-82% yield. I with II (R1 = p-R3C6H4 (R3 = Cl, Me, MeO, NO2),

PhCH2, R2 = Me; R1 = p-MeC6H4, R2 = PhCH2; R1 = R2 = Ph] in refluxing MeCN

gave the corresponding E- and Z-IV in 19-94% yield.

IT 31249-03-3P

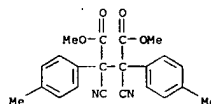
RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of)

RN 31249-03-3 CAPLUS

CN Butanedioic acid, 2,3-dicyano-2,3-bis(4-methylphenyl)-, dimethyl ester

(9CI) (CA INDEX NAME)



L4 ANSWER 95 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1981:615317 CAPLUS

DN 95:215317

OREF 95:35821a,35824a

TI Stereochemical considerations in the binding of nonsteroidal estrogens to

the estrogen receptor

AU Landvatter, Scott W.; Katzenellenbogen, John A.

CS Sch. Chem. Sci., Univ. Illinois, Urbana, IL, 61801, USA

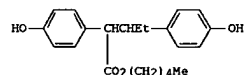
SO Molecular Pharmacology (1981), 20(1), 43-51

CODEN: MOPHAA; ISSN: 0026-895X

DT Journal

LA English

GI



AB Derivs. of nonsteroidal estrogens, such as hexestrol, can interact with the estrogen receptor in 4 possible binding modes, 2 per enantiomer. Several side chain-functionalized hexestrol and norhexestrol derivs. have been synthesized and resolved into pure enantiomers. Binding studies with lamb uterine estrogen receptor have indicated that there is no appreciable difference in binding between enantiomers in the hexestrol series. Enantiomers in the norhexestrol series, on the other hand, do show differences in binding. The (-)-(2R,3S)-pentyl ester (I) [79568-12-0] binds to receptor with twice the affinity of racemic material and 14 times the affinity of the (+)-(2S,3R)-antipode [78923-77-0]. It is concluded that the norhexestrols prefer 1 of the 4 possible binding modes, whereas the hexestrols can adopt 2 of the 4 modes equally. Furthermore, comparisons between the binding affinities of corresponding hexestrol and norhexestrol derivs. suggest that the source of chiral recognition is a specific interaction between the carbonyl group in the 2R,3S enantiomer of the norhexestrol derivs. that elevates affinity, this interaction not being attainable in the other enantiomer and in the derivs. in the hexestrol series.

IT 79568-12-0P 79618-13-6P 79618-14-7P

79645-19-5P 83213-76-7P

RL: SPN (Synthetic preparation); PREP (Preparation)

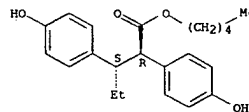
(preparation and estrogen receptor binding of)

RN 79568-12-0 CAPLUS

CN Benzenepropanoic acid,  $\beta$ -ethyl-4-hydroxy- $\alpha$ -(4-hydroxyphenyl)-, pentyl ester, [R-(R\*,S\*)]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

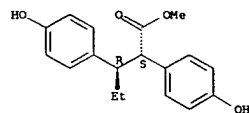
L4 ANSWER 95 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 79618-13-6 CAPLUS

CN Benzenepropanoic acid,  $\beta$ -ethyl-4-hydroxy- $\alpha$ -(4-hydroxyphenyl)-, methyl ester, [S-(R\*,S\*)]- (9CI) (CA INDEX NAME)

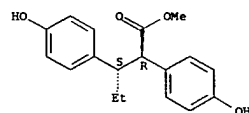
Absolute stereochemistry.



RN 79618-14-7 CAPLUS

CN Benzenepropanoic acid,  $\beta$ -ethyl-4-hydroxy- $\alpha$ -(4-hydroxyphenyl)-, methyl ester, [R-(R\*,S\*)]- (9CI) (CA INDEX NAME)

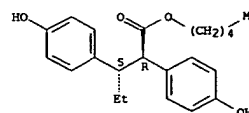
Absolute stereochemistry.



RN 79645-19-5 CAPLUS

CN Benzenepropanoic acid,  $\beta$ -ethyl-4-hydroxy- $\alpha$ -(4-hydroxyphenyl)-, pentyl ester, (R\*,S\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

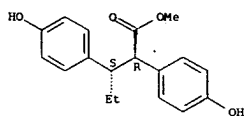


RN 83213-76-7 CAPLUS

## CAS ONLINE PRINTOUT

L4 ANSWER 95 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 CN Benzenepropanoic acid,  $\beta$ -ethyl-4-hydroxy- $\alpha$ -(4-hydroxyphenyl)-, methyl ester, (R\*,S\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



L4 ANSWER 96 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1981:569267 CAPLUS  
 DN 95:169267

OREF 95:28301a,28304a

TI Studies of organosilicon compounds. XXIX. Reaction of hydroxyaldehydes and hydroxyketones with trialkylsilanes

AU Lapkin, I. I.; Dvinskikh, V. V.

CS Perm. Gos. Univ., Perm, USSR

SO Zhurnal Obshchei Khimii (1981), 51(6), 1354-60

CODEN: ZOKH44; ISSN: 0044-460X

DT Journal

LA Russian

OS CASREACT 95:169267

AB Fifteen benzylalkoxysilanes were prepared in 27-79% yields by the title reaction in the presence of Ni. Thus, heating p-HOC6H4CHO with Et3SiH in C6H6 at 85-90° 2.5-3 h in the presence of colloidal Ni gave 59%

p-HOC6H4CH2OSiEt3.

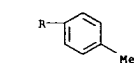
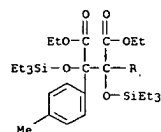
IT 79523-76-5P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of)

RN 79523-76-5 CAPLUS

CN Butanedioic acid, 2,3-bis(4-methylphenyl)-2,3-bis((triethylsilyl)oxy)-, diethyl ester (9CI) (CA INDEX NAME)



L4 ANSWER 97 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1981:30582 CAPLUS

DN 94:30582

OREF 94:5043a,5046a

TI Homophthalimides carrying amino substituents in the 2-position

IN Kutter, Eberhard; Austel, Volkhard; Eberlein, Wolfgang; Heider, Joachim;

Kobinger, Walter; Lillie, Christian; Kadatz, Rudolf

PA Thomae, Dr. Karl, G.m.b.H., Fed. Rep. Ger.

SO Can., 74 pp.

CODEN: CAOX44

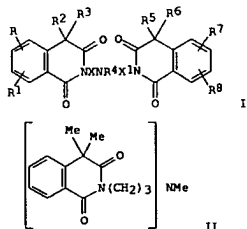
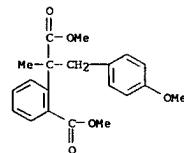
DT Patent

LA English

FAN.CMT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CA 1076116	A1	19800422	CA 1976-258095	19760729
	DE 2533986	A1	19770217	DE 1975-2533986	19750730
	DE 2533986	B2	19790906		
	DE 2533986	C3	19800522		
PRAI	DE 2622690	A1	19771208	DE 1976-2622690	19760521
	DE 1975-2533986	A	19750730		
GI	DE 1976-2622690	A	19760521		

L4 ANSWER 97 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



AB Amines I (X, X1 = C2-4 alkylene, optionally substituted by Me or Ph; R, R1, R7, R8 = H, F, Cl, Br, OH, NH2, NO2, NHAc, alkyl, alkoxy, alkylthio; R2, R3, R5, R6 = H, alkyl, phenylalkyl, methoxyphenylalkyl; R2R3, R5R6 = alkylene; R4 = H, alkyl, phenylalkyl) were prepared. Thus, 4,4-dimethyl-1,3-isochroman-2-one was treated with MeN[(CH2)3NH2]2 to give 65% II. II had an antiarrhythmic ED50 5.5  $\mu$ g/mL measured on the refractory period of isolated guinea pig left auricle.

IT 76065-15-1

RL: RCT (Reactant); RACT (Reactant or reagent)

(saponification of)

RN 76065-15-1 CAPLUS

CN Benzenepropanoic acid, 4-methoxy- $\alpha$ -[2-(methoxycarbonyl)phenyl]- $\alpha$ -methyl-, methyl ester (CA INDEX NAME)

## CAS ONLINE PRINTOUT

L4 ANSWER 98 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1981:30534 CAPLUS

DN 94:30534

OREF 94:5031a,5034a

TI Electrochemical oxidation of aromatic ethers. Part 6. Oxidation of 4-(3,4-dimethoxybenzyl)-6,7-dimethoxy-2-methyl-1,2,3,4-tetrahydroisoquinoline and attempted synthesis of 4-(3,4-dimethoxybenzyl)-6,7-dimethoxy-2-methyl-1,4-dihydro-3(2H)-isoquinolone

AU Carmody, Maurice P.; Sainsbury, Malcolm; Newton, Roger F.

CS Sch. Chem., Univ. Bath, Bath, BA2 7AY, UK

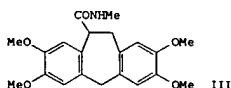
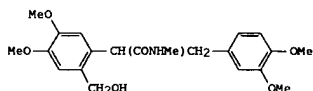
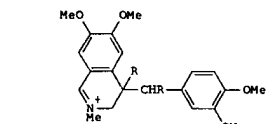
SO Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (1980), (9), 2013-20

CODEN: JCPRB4; ISSN: 0300-922X

DT Journal

LA English

GI



AB Anodic oxidation at 1.15 and 1.9 V, resp., of the title tetrahydroisoquinoline (Bu4NBF4, CF3CO2H-CH2Cl2, C-felt anode, approx. 3 h) gave the dihydroisoquinolinium derivs. I (R = H, R2 = bond, resp.), and no aryl-aryl coupled products were isolated. It is suggested that to achieve intramol. coupling of the 2 methoxylated rings their oxidation potentials should be closely similar. Cyclization of the amide II (Et polyphosphoric ester, 140°, 15 min) gave the dibenzocycloheptene III (71%), and not the expected title dihydroisoquinolone.

IT 76056-00-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

L4 ANSWER 99 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1980:532199 CAPLUS

DN 93:132199

OREF 93:21069a,21072a

TI Thallium in organic synthesis. 57. Reaction of chalcones and chalcone ketals with thallium(III) trinitrate

AU Taylor, Edward C.; Conley, Richard A.; Johnson, David K.; McKillop,

Alexander; Ford, Michael E.

CS Dep. Chem., Princeton Univ., Princeton, NJ, 08540, USA

SO Journal of Organic Chemistry (1980), 45(17), 3433-6

CODEN: JOCEAH; ISSN: 0022-3263

DT Journal

LA English

OS CASREACT 93:132199

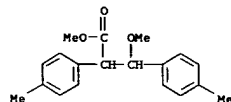
AB Treatment of chalcones ArCH:CHCOAr' with Tl(NO3)3 in acidic MeOH or in HC(OMe)3 gave (MeO)2CHCHArCOAr' (oxythallation-rearrangement) and/or MeOCHArCHAr'CO2Me (ketalization-oxythallation-rearrangement). The effect of substituents on Ar and Ar' on the ratio of the above rearrangement products was examined

IT 74007-60-6P

RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)

RN 74007-60-6 CAPLUS

CN Benzenepropanoic acid,  $\beta$ -methoxy-4-methyl- $\alpha$ -(4-methylphenyl)-, methyl ester (CA INDEX NAME)

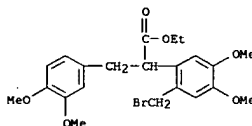


L4 ANSWER 98 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

(prepn. and cyclization of)

RN 76056-00-3 CAPLUS

CN Benzenepropanoic acid,  $\alpha$ -(2-(bromomethyl)-4,5-dimethoxyphenyl)-3,4-dimethoxy-, ethyl ester (CA INDEX NAME)



L4 ANSWER 100 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1980:516183 CAPLUS

DN 93:116183

OREF 93:18609a,18612a

TI Synthesis of trimeric lignin model compound composed of  $\beta$ -O-4 and  $\beta$ -1 structures

AU Namba, Hiroaki; Nakatsubo, Fumiaki; Higuchi, Takayoshi

CS Wood Res. Inst., Kyoto Inst., Uji, 611, Japan

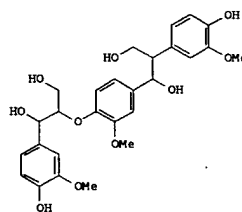
SO Mokuzai Gakkaishi (1980), 26(6), 426-31

CODEN: MKZGA7; ISSN: 0021-4795

DT Journal

LA English

GI



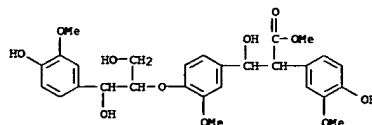
AB Trilignol (I) [13459-21-7], a major structure in lignin, was synthesized in 46% overall yield via reaction of Me 4-benzoyloxy-5-methoxybenzeneacetate [16209-54-4] with erythro-4-[[4-(4-benzoyloxy-3-methoxyphenyl)-2,2-dimethyl-1,3-dioxan-5-yl]oxy]-3-methoxybenzaldehyde [74613-61-9] (5 steps), and its structure was elucidated by chemical anal. and UV, IR, NMR, and mass spectroscopy.

IT 74613-58-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (preparation and acetylation of)

RN 74613-58-4 CAPLUS

CN Benzenepropanoic acid,  $\beta$ -hydroxy-4-[2-hydroxy-2-(4-hydroxy-3-methoxyphenyl)-1-(hydroxymethyl)ethoxy]- $\alpha$ -(4-hydroxy-3-methoxyphenyl)-3-methoxy-, methyl ester (CA INDEX NAME)



## CAS ONLINE PRINTOUT

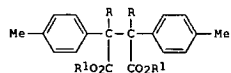
L4 ANSWER 100 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

L4 ANSWER 101 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1980:516113 CAPLUS  
 DN 93:116113  
 OREF 93:18601a,18604a  
 TI Poly(vinyl chloride) plastisol compositions  
 PA Dainippon Ink and Chemicals, Inc., Japan  
 SO Jpn. Kokai Tokkyo Koho, 5 pp.  
 CODEN: JKOXAF

DT Patent  
 LA Japanese  
 FAN.CMT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 55052335	A	19800416	JP 1978-125721	19781014
	JP 61047868	B	19861021		
PRAI	JP 1978-125721	A	19781014		
GI					

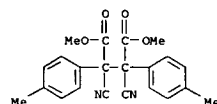


AB PVC [9002-86-2] plastisols containing I (R = CN, CO2R1; R1 = C1-3 alkyl) as radical initiators gave baked coatings free from bubbles. For example, a PVC plastisol containing trimethylolpropane trimethacrylate [3290-92-4] (reactive plasticizer) 60, DOP 100, epoxidized soybean oil 3, CaCO3 200, a Sh stabilizer 2, and I (R = CN, R1 = Me) (II) [31249-03-3] 12 phr was baked on tinplate at 120° to give a coating with better adhesion and lower bubble content than that using 1,1-bis(tert-butylperoxy)-3,3,5-trimethylcyclohexane in place of II.

IT 31249-03-3  
 RL: CAT (Catalyst use); USES (Uses)  
 (catalysts, for crosslinking of PVC plastisol coatings)

RN 31249-03-3 CAPLUS

CN Butanedioic acid, 2,3-dicyano-2,3-bis(4-methylphenyl)-, dimethyl ester (9CI) (CA INDEX NAME)



L4 ANSWER 102 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1980:514097 CAPLUS

DN 93:114097

OREF 93:18249a,18252a

TI New 2-phenyl-3-aminopropanoic acid derivatives

AU Fiserova, L.; Grimova, J.; Nemecek, O.

CS Vyzk. Ustav Farm. Biochem., Prague, 13060/3, Czech.

SO Cesko-Slovenska Farmacie (1979), 28(8), 326-30

CODEN: CKFRAY; ISSN: 0009-0530

DT Journal

LA Czech

OS CASREACT 93:114097

AB 4-RCGH4CH2CO2Et (R = H, Me, Cl, Me2CH, Me2CHCH2) added to 22 RICH:NC6H4R2 (I; R1 = 4-Me2CHC6H4, 3,4-methylenedioxyphenyl, 2- and 4-ClC6H4, Ph, 4-FC6H4, 2-furyl; R2 = 4-Me, H, 3-Cl, 4-Cl, 3,4-methylenedioxy, 4-CO2Et) in anhydrous Me2SO containing EtONa at room temperature to give 26 corresponding

4-RCGH4CH(CO2Et)CHR1NHC6H4R2 (III) in 28-81% yield. Theor., 4-RCGH4CH2CO2H (R = H, O2N, Cl) added to 9 RICH:NR3 (R1 = Ph, 3,4-methylenedioxyphenyl, 4-Me2CHC6H4, 4-ClC6H4; R3 = Me, CHMe2, Bu) at 100° under N to give 9 corresponding 4-RCGH4CH(CO2H)CHR1NHR3 (III) in 11-50% yield. I (R1 = 4-ClC6H4, 4-Me2CHC6H4, R2 = 3,4-methylenedioxy; R1 = 4-Me2CHC6H4, R2 = 4-Cl) were prepared by standard methods. The LD50 of II and III were >1 g/kg

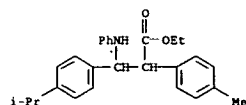
body weight II (R = H, Cl, R1 = 3,4-methylenedioxyphenyl, R2 = H, 4-Me, 4-Cl; R = R2 = H, R1 = 4-Me2CHC6H4) and III (R = H, R1 = 3,4-methylenedioxyphenyl, R3 = CHMe2, Bu; R = Cl, R1 = 4-Me2CHC6H4, R3 = Me) had weak antiinflammatory activity.

IT 74760-33-1P

RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation, toxicity and antiinflammatory activity of)

RN 74760-33-1 CAPLUS

CN Benzenepropanoic acid, 4-(1-methylethyl)-α-(4-methylphenyl)-β-(phenylamino)-, ethyl ester (CA INDEX NAME)



L4 ANSWER 103 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1980:128633 CAPLUS

DN 92:128633

OREF 92:20967a,20970a

TI Syntheses of phenylcoumarans

AU Nakatsubo, Fumiaki; Higuchi, Takayoshi

CS Wood Res. Inst., Kyoto Univ., Uji, Japan

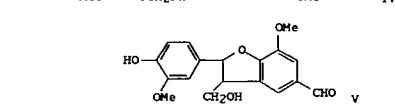
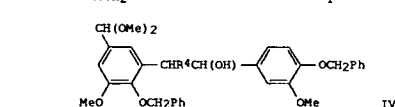
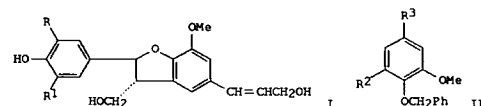
SO Mokuzai Gakkaishi (1979), 25(11), 735-42

CODEN: MKZGAT; ISSN: 0021-4795

DT Journal

LA English

GI



AB Phenylcoumarans I (R, R1 = H, MeO) were prepared by introducing a 2C side chain to a vanillin derivative, cyclization of the substituted vanillin to form a phenylcoumaran, and extension of the aldehyde side chain. Thus, II (R2 = Iodo, R3 = CH(OMe)2), was treated with BuLi and DMF followed by reaction with MeSCH2SO2Me and methanolysis to give III (R2 = CH2CO2Me, R3 = CH(OMe)2, III). III was condensed with II (R2 = H, R3 = CHO) in the presence of LiN(CHMe2) to give 80% threo-IV (R4 = CO2Me). Subsequent silylation and reduction gave diol IV (R4 = CH2OH). The diol was then hydrogenated and cyclized by treating with Et2O.BF3 in CHCl2. A Wittig reaction of the resulting phenylcoumaran V with 1,3-dioxan-2-ylmethyltriphenylphosphonium bromide followed by NaBH4 reduction gave I (R = H, R1 = OMe) in 90% overall yield.

IT RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation and reduction of)

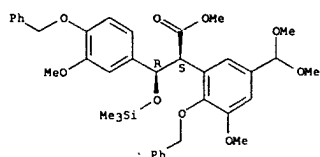
RN 73022-32-9 CAPLUS

CN Benzenepropanoic acid, α-[5-(dimethoxymethyl)-3-methoxy-2-(phenylmethoxy)phenyl]-3-methoxy-4-(phenylmethoxy)-β-[(trimethylsilyl)oxy]-, methyl ester, (R\*,S\*)- (9CI) (CA INDEX NAME)

## CAS ONLINE PRINTOUT

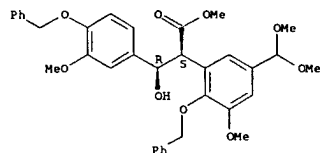
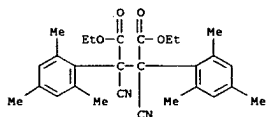
L4 ANSWER 103 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

Relative stereochemistry.



IT 73022-30-7P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (preparation and silylation of)  
 RN 73022-30-7 CAPLUS  
 CN Benzenepropanoic acid, α-[5-(dimethoxymethyl)-3-methoxy-2-(phenylmethoxy)phenyl]-β-hydroxy-3-methoxy-4-(phenylmethoxy)-, methyl ester, (R\*,S\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

L4 ANSWER 104 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
ester (9CI) (CA INDEX NAME)

L4 ANSWER 104 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1979:473877 CAPLUS

DN 91:73877

OREF 91:11933a,11936a

TI Bimolecular self-reactions of 2-arylindandion-1,3-yl radicals studied by flash photolysis

AU Khudyakov, I. V.; Yasmenko, A. I.; Kuz'min, V. A.

CS Inst. Chem. Phys., Moscow, 117334, USSR

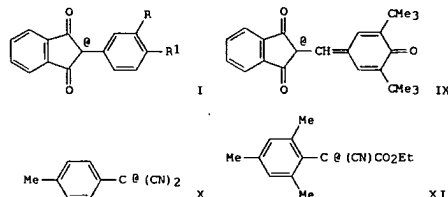
SO International Journal of Chemical Kinetics (1979), 11(6), 621-33

CODEN: IJCKBO; ISSN: 0538-8066

DT Journal

LA English

GI



AB Kinetic and thermodyn. data for the title reaction of aromatic radicals I [R

H, R1 = NMe2 (II); R = H, R1 = NEt2 (III); R = H, R1 = NPr2 (IV); R = H, R1 = NBu2 (V); R = H, R1 = NPh2 (VI); R = R1 = OMe (VII); R = Br, R1 = NMe2 (VIII)], IX, X, and XI were obtained. The recombination reactions involving radicals II-V are limited by diffusion in solvents having a viscosity  $\eta > 10$  cP and are activation reactions in solvents having a viscosity  $\eta < 10$  cP. The recombination of radicals IX and X is an activation reaction, while that of radicals VI-VIII is diffusion-controlled in the entire viscosity range. The recombination of radicals XI is limited, in the viscosity range of 18.4 to 2 cP, by intrusion into the first coordination sphere of the partner, the effect of viscosity on the radical XI recombination rate in the specified range being the same as its effect on diffusion-controlled reactions. The possible reasons of the discrepancies between the exptl. fast recombination rate consts. and the theor. values calculated by the Debye-Smoluchowski theory are discussed. The equilibrium constant depends strongly on the nature of the substituent in the Ph fragment: the substituents which increase unpaired electron delocalization in the radical intensify the dissociation of the resp. dimer.

IT 71023-19-3

RL: PROC (Process)  
(dissociation of)

RN 71023-19-3 CAPLUS

CN Butanedioic acid, 2,3-dicyano-2,3-bis(2,4,6-trimethylphenyl)-, diethyl

L4 ANSWER 105 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1979:419465 CAPLUS

DN 91:19465

OREF 91:3249a,3252a

TI Voltammetric study of the anodic oxidation of enolate carbanions

AU Kern, Jean Marc; Federlin, Paul

CS Inst. Chim., Univ. Louis Pasteur, Strasbourg, 67000, Fr.

SO Journal of Electroanalytical Chemistry and Interfacial Electrochemistry (1978), 96(2), 209-28

CODEN: JEIEBC; ISSN: 0022-0728

DT Journal

LA English

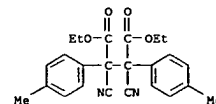
AB A voltammetric study of the anodic oxidation of the enolate carbanions of  $\beta$ -ketonitriles  $RCH(CN)COR1$  has been carried out in Me2SO. The variation of Eox of these species as a function of the nature of R and R1 was examined. Their anodic oxidation process could be identified by anal. of the voltamperometric curves obtained both at the rotated Pt electrode and at the stationary electrode. Cyclic voltammetry has confirmed that this is an overall irreversible process. The electrochem. reaction e yielding a neutral radical is followed by the very fast dimerization (2nd-order chemical reaction c). The formation of different kinds of dimers, depending on the nature of the oxidized enolates, has been observed during controlled potential electrolysis.

IT 70230-43-2P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

RN 70230-43-2 CAPLUS

CN Butanedioic acid, 2,3-dicyano-2,3-bis(4-methylphenyl)-, 1,4-diethyl ester (CA INDEX NAME)

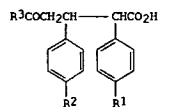


## CAS ONLINE PRINTOUT

L4 ANSWER 106 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1979:203702 CAPLUS  
 DN 90:203702  
 OREF 90:32393a,32396a  
 TI 5-Oxopentanoic acid derivatives  
 IN Fiserova, Ludmila; Nemecek, Oldrich; Grimova, Jaroslava  
 PA Czech.  
 SO Czech., 6 pp.  
 CODEN: CZXXA9  
 DT Patent  
 LA Czech  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI CS 176744	B1	19770630	CS 1975-2824	19750423
PRAI CS 1975-2824	A	19750423		

GI

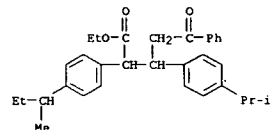


AB The title compds. I (R1 = H, C3-4 alkyl, Cl, NO2, OMe; R2 = H, CHMe2, NMe2, Cl, NO2; R3 = Ph, 2-furyl, OMe3, 3-indanyl, C6H3Cl2-2,4) were prepared by addition of 4-R1C6H4CH2CO2Et to 4-R2C6H4CH:CHCOR3 and saponification of the product. Thus, a solution of 2.46 g PhCH2CO2Et and 3.7 g 4-Me2CHC6H4CH:CHCOR3 in Et2O containing EtONa was kept 5 days to give 4.4 g PhCOCH2CH(C6H4CHMe2-4)CHPhCO2Et which was refluxed with AcOH-HBr to yield 3.5 g I (R1 = H, R2 = CHMe2, R3 = Ph). Similarly prepared were PhCOCH2CH(R4)CH(R5)CO2H (R4 = 2-pyrrolyl, 3-pyridyl; R5 = Ph, C6H4NO2-4, C6H4CH2CO2Me-4).

IT 59771-47-0P 70334-43-9P 70334-45-1P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

RN 59771-47-0 CAPLUS

CN Benzenepentanoic acid,  $\beta$ -[4-(1-methylethyl)phenyl]- $\alpha$ -[4-(1-methylpropyl)phenyl]-8-oxo-, ethyl ester (9CI) (CA INDEX NAME)

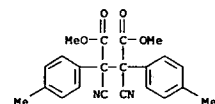


L4 ANSWER 107 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1979:203150 CAPLUS  
 DN 90:203150  
 OREF 90:32305a,32308a  
 TI Nucleophile addition to dimethyl (1-aryl-1-cyanocarbomethoxymethyl)sulfonium salts. Homolytic fragmentation of the obtained sulfuranes  
 AU Morel, Georges; Marchand, Evelyne; Foucaud, Andre  
 CS Groupe Rech. Chim. Struct., CNRS, Rennes, Fr.  
 SO Tetrahedron Letters (1978), (39), 3719-22  
 CODEN: TELEAY; ISSN: 0040-4039  
 DT Journal  
 LA French  
 AB Reaction of cyanoacetic ester anions with the title sulfonium salts gave recombination products of radicals arising from the decomposition of the intermediate  $\alpha$ -sulfurane. Thus, treatment of RC-(CN)(CO2Et).Na<sup>+</sup> (R = 4-MeC6H4) with RC(CN)(CO2Me)S<sup>+</sup>Me2.PF6<sup>-</sup> in THF at 20° gave Me2S, RC(CN)(CO2Me)CR(CN)CO2Me, RC(CN)(CO2Me)CR(CN)CO2Et, and RC(CN)(CO2Et)CR(CN)CO2Et.

IT 31249-03-3P 70230-43-2P 70245-03-3P  
 70245-07-7P 70245-08-8P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

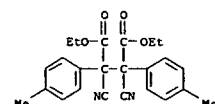
RN 31249-03-3 CAPLUS

CN Butanedioic acid, 2,3-dicyano-2,3-bis(4-methylphenyl)-, dimethyl ester (9CI) (CA INDEX NAME)



RN 70230-43-2 CAPLUS

CN Butanedioic acid, 2,3-dicyano-2,3-bis(4-methylphenyl)-, 1,4-diethyl ester (CA INDEX NAME)



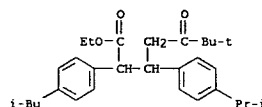
RN 70245-03-3 CAPLUS

CN Butanedioic acid, 2,3-dicyano-2,3-bis(4-methylphenyl)-, ethyl methyl ester (9CI) (CA INDEX NAME)

L4 ANSWER 106 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

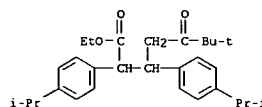
RN 70334-43-9 CAPLUS

CN Benzenepropanoic acid,  $\beta$ -(3,3-dimethyl-2-oxobutyl)-4-(1-methylethyl)- $\alpha$ -[4-(2-methylpropyl)phenyl]-, ethyl ester (CA INDEX NAME)

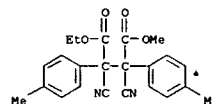


RN 70334-45-1 CAPLUS

CN Benzenepropanoic acid,  $\beta$ -(3,3-dimethyl-2-oxobutyl)-4-(1-methylethyl)- $\alpha$ -[4-(1-methylethyl)phenyl]-, ethyl ester (CA INDEX NAME)

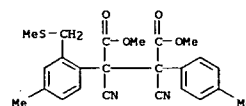


L4 ANSWER 107 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



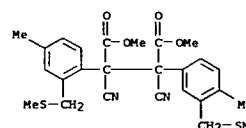
RN 70245-07-7 CAPLUS

CN Butanedioic acid, 2,3-dicyano-2-[4-methyl-2-[(methylthio)methyl]phenyl]-3-[4-methylphenyl]-, dimethyl ester (9CI) (CA INDEX NAME)



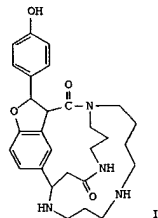
RN 70245-08-8 CAPLUS

CN Butanedioic acid, 2,3-dicyano-2-(4-methyl-2-[(methylthio)methyl]phenyl)-3-[4-methyl-3-[(methylthio)methyl]phenyl]-, dimethyl ester (9CI) (CA INDEX NAME)

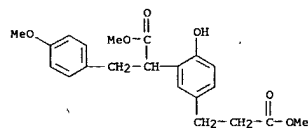


## CAS ONLINE PRINTOUT

L4 ANSWER 108 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1979:138070 CAPLUS  
 DN 90:138070  
 OREF 90:21905a,21908a  
 TI The structure of the spermine alkaloid aphelandrine from Aphelandra squarrosa Nees  
 AU Daetwyler, Peter; Bosshardt, Herbert; Bernhard, Heinz O.; Hesse, Manfred; John, Siegfried  
 CS Org.-Chem. Inst., Univ. Zurich, Zurich, Switz.  
 SO Helvetica Chimica Acta (1978), 61(7), 2646-71  
 CODEN: HCACAV; ISSN: 0018-019X  
 DT Patent  
 LA German  
 GI



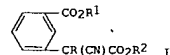
AB The structure of aphelandrine from A. squarrosa was determined to be I from chemical and spectral data.  
 IT 69721-65-9P  
 RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)  
 RN 69721-65-9 CAPLUS  
 CN Benzenepropanoic acid, α-[2-hydroxy-5-(3-methoxy-3-oxopropyl)phenyl]-4-methoxy-, methyl ester (CA INDEX NAME)



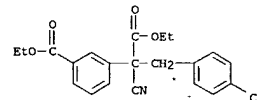
L4 ANSWER 109 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

L4 ANSWER 109 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1979:103658 CAPLUS  
 DN 90:103658  
 OREF 90:16363a,16366a  
 TI Substituted phenylacetone nitrile  
 IN Maurer, Manfred; Lange, Fritz Walter; Orth, Winfried; Miele, Heinrich; Fickert, Werner  
 PA Ruetgerswerke A.-G., Fed. Rep. Ger.  
 SO Ger. Offen., 26 pp.  
 CODEN: GWXXBX  
 DT Patent  
 LA German  
 FAN.CNT 1

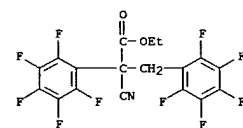
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2708142	A1	19780831	DE 1977-2708142	19770225
DE 2708142	B2	19800918		
DE 2708142	C3	19811029		
ES 462366	A1	19780601	ES 1977-462366	19770914
CH 632236	A5	19820930	CH 1977-15344	19771213
FR 2381750	A1	19780922	FR 1978-4716	19780220
PRAI DE 1977-2708142	A	19770225		
OS MARPAT 90:103658				
GI				



AB Substituted phenylacetone nitriles I (R = C1-4 alkyl, C5-7 cycloalkyl or benzyl, optionally substituted by Br, Cl or carbalkoxy; R1 and R2 = C1-4 alkyl) and 3-HO2CC6H4CHRCN (II, R = same as in I) were prepared. Thus, 3-MeO2CC6H4CH2Cl treated successively with NaCN, Na and MeOCO2Me gave 3-MeO2CC6H4CHNa(CN)CO2Me which, treated with Me2SO4 gave I (R = R1 = R2 = Me), which was saponified and partially decarboxylated to give II (R = Me).  
 IT 68433-08-9P  
 RL: SPN (Synthetic preparation); PREP (Preparation) (preparation, saponification and partial decarboxylation of)  
 RN 68433-08-9 CAPLUS  
 CN Benzenepropanoic acid, 4-chloro-α-cyano-α-[3-(ethoxycarbonyl)phenyl]-, ethyl ester (CA INDEX NAME)



L4 ANSWER 110 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1979:38643 CAPLUS  
 DN 90:38643  
 OREF 90:6219a  
 TI Reaction of carbanion of pentafluorophenylcyanoacetic ester with electrophilic reagents  
 AU Zakharova, O. V.; Vlasov, V. M.; Yakobson, G. G.  
 CS Novosib. Inst. Org. Khim., Novosibirsk, USSR  
 SO Zhurnal Organicheskoi Khimii (1978), 14(9), 1895-904  
 CODEN: ZORXAE; ISSN: 0514-7492  
 DT Journal  
 LA Russian  
 AB C6F5C(CN)CO2Et Na+ reacted with RX (R = Me, Et, EtO2CH2, allyl, PhCH2, C6F5CH2; X = Cl, Br, I) in DMF at 50-60° to give 60-78% C6F5CR(CN)CO2Et (I), and at 95-150° to 56-64% C6F5CHRCN via C6F5C(CN)CO2Et Na+ and/or C6F5C(CN)CO2Et Na+ (II). Similarly, treating C6F5C(CN)CO2Et with CH2=CHCN in Et3N at 70 and 130° gave C6F5CR1(CN)CH2CH2CN (R1 = CO2Et, H, resp.). Treating II with CF2=CF3 gave C6F5C(CN):C(CHFCF3)CH(C6F5)CN. Acidic hydrolysis of I (R = Me, CH2CO2Et, CH2CO2H, CH2Ph, CH2CH2CN, Cl) gave 40-73% C6F5CHRCO2H.  
 IT 68598-75-4P  
 RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)  
 RN 68598-75-4 CAPLUS  
 CN Benzenepropanoic acid, α-cyano-2,3,4,5,6-pentafluoro-α-(pentafluorophenyl)-, ethyl ester (9CI) (CA INDEX NAME)



## CAS ONLINE PRINTOUT

L4 ANSWER 111 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1979:6107 CAPLUS

DN 90:6107

OREF 90:1109a,1112a

T1 3-Carboxyphenylacetic acid derivatives

IN Maurer, Manfred; Lange, Fritz Walter; Orth, Winfried; Miele, Heinrich; Fickert, Werner

PA Ruetgerswerke A.-G., Fed. Rep. Ger.

SO Ger. Offen., 25 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2708143	A1	19780831	DE 1977-2708143	19770225
DE 2708143	B2	19800626		
DE 2708143	C3	19811119		
NL 7713112	A	19780829	NL 1977-13112	19771129
ES 464851	A1	19780801	ES 1977-464851	19771207
AT 7801340	A	19790515	AT 1978-1340	19780224
AT 353777	B	19791210		
GB 1555849	A	19791114	GB 1978-7732	19780227
DE 1977-2708143	A	19770225		

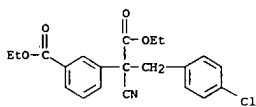
AB 3-HO<sub>2</sub>CC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>CO<sub>2</sub>H (I, R = Cl-4-alkyl, C<sub>5</sub>-7-cycloalkyl, benzyl or substituted benzyl) were prepared in 5 steps from alkyl α-chloro-m-toluates. Thus, 3-ClCH<sub>2</sub>CC<sub>6</sub>H<sub>4</sub>CO<sub>2</sub>Et successively treated with NaCN and Na-EtCO<sub>3</sub> gave 3-EtO<sub>2</sub>CC<sub>6</sub>H<sub>4</sub>CN(CN)CO<sub>2</sub>Et, which was methylated, partially decarboxylated and hydrolyzed to give I (R = Me).

IT 68433-08-9P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and partial decarboxylation and hydrolysis of)

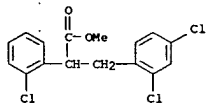
RN 68433-08-9 CAPLUS

CN Benzenepropanoic acid, 4-chloro-α-cyano-α-[3-(ethoxycarbonyl)phenyl]-, ethyl ester (CA INDEX NAME)



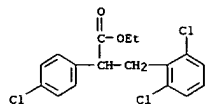
L4 ANSWER 112 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

(Continued)



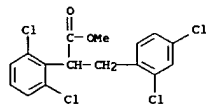
RN 59667-04-8 CAPLUS

CN Benzenepropanoic acid, 2,6-dichloro-α-(4-chlorophenyl)-, ethyl ester (CA INDEX NAME)



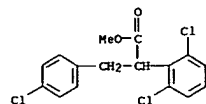
RN 59667-13-9 CAPLUS

CN Benzenepropanoic acid, 2,4-dichloro-α-(2,6-dichlorophenyl)-, methyl ester (CA INDEX NAME)



RN 59667-14-0 CAPLUS

CN Benzenepropanoic acid, 4-chloro-α-(2,6-dichlorophenyl)-, methyl ester (CA INDEX NAME)



RN 59667-36-6 CAPLUS

CN Benzenepropanoic acid, 4-chloro-α-(2-chlorophenyl)-, methyl ester (CA INDEX NAME)

L4 ANSWER 112 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1977:601405 CAPLUS

DN 87:201405

OREF 87:31897a,31890a

T1 Antimycotic imidazoles. 2. Synthesis and antimycotic properties of 1-[2-(aryalkyl)-2-phenylethyl]-1H-imidazoles

AU Heeres, Jan; Mostmans, Jozef H.; Van Cutsem, Jan

CS Res. Lab., Janssen Pharm., Beerse, Belg.

SO Journal of Medicinal Chemistry (1977), 20(11), 1511-16

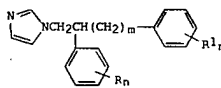
CODEN: JMCMAR; ISSN: 0022-2623

DT Journal

LA English

OS CASREACT 87:201405

GI



AB 1-[2-(Aryalkyl)-2-phenylethyl]-1H-imidazoles I (R<sub>n</sub> = 2-Cl, -Br, -Me, 4-Cl, 2,4-, 2,6-Cl<sub>2</sub>; R<sub>1</sub>n = H, 2-, 4-Cl, 4-Br, -OMe, 2,4-, 2,6-Cl<sub>2</sub>; m = 1, 2) were prepared from the corresponding R<sub>n</sub>C<sub>6</sub>H<sub>5</sub>-nCH<sub>2</sub>CN via successive alkylation with X(CH<sub>2</sub>)<sub>m</sub>C<sub>6</sub>H<sub>5</sub>-nR<sub>1</sub>n (X = halo), conversion to the corresponding ester R<sub>n</sub>C<sub>6</sub>H<sub>5</sub>-nCH(CO<sub>2</sub>R)(CH<sub>2</sub>)<sub>m</sub>C<sub>6</sub>H<sub>5</sub>-nR<sub>1</sub>n (R = Me, Et), and NaBH<sub>4</sub>-LiI reduction to R<sub>n</sub>C<sub>6</sub>H<sub>5</sub>-nCH(CH<sub>2</sub>OH)(CH<sub>2</sub>)<sub>m</sub>C<sub>6</sub>H<sub>5</sub>-nR<sub>1</sub>n. These alcs. were methylated and the products refluxed with imidazole in DMF to yield I which were active in vitro against dermatophytes, yeasts, other fungi, and gram-positive bacteria. Some were also active in vivo against Candida albicans.

IT 59667-03-7P 59667-04-8P 59667-13-9P

59667-14-0P 59667-36-6P 59667-38-8P

64008-30-6P 64008-31-7P 64008-32-8P

64008-33-9P 64008-34-0P 64008-35-1P

64008-36-2P 64008-37-3P 64008-38-4P

64008-39-5P 64008-40-8P 64008-41-9P

64008-42-0P 64008-44-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

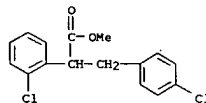
(preparation and reduction of)

RN 59667-03-7 CAPLUS

CN Benzenepropanoic acid, 2,4-dichloro-α-(2-chlorophenyl)-, methyl ester (CA INDEX NAME)

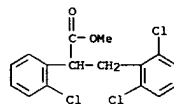
L4 ANSWER 112 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

(Continued)



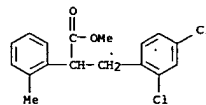
RN 59667-38-8 CAPLUS

CN Benzenepropanoic acid, 2,6-dichloro-α-(2-chlorophenyl)-, methyl ester (CA INDEX NAME)



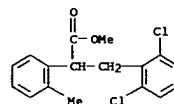
RN 64008-30-6 CAPLUS

CN Benzenepropanoic acid, 2,4-dichloro-α-(2-methylphenyl)-, methyl ester (CA INDEX NAME)



RN 64008-31-7 CAPLUS

CN Benzenepropanoic acid, 2,6-dichloro-α-(2-methylphenyl)-, methyl ester (CA INDEX NAME)

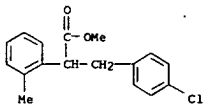


RN 64008-32-8 CAPLUS

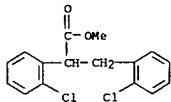
CN Benzenepropanoic acid, 4-chloro-α-(2-methylphenyl)-, methyl ester (CA INDEX NAME)

## CAS ONLINE PRINTOUT

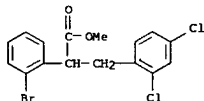
L4 ANSWER 112 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



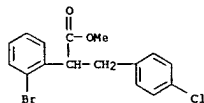
RN 64008-33-9 CAPLUS  
CN Benzenepropanoic acid, 2-chloro-α-(2-chlorophenyl)-, methyl ester  
(CA INDEX NAME)



RN 64008-34-0 CAPLUS  
CN Benzenepropanoic acid, α-(2-bromophenyl)-2,4-dichloro-, methyl ester  
(CA INDEX NAME)

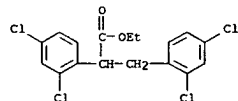


RN 64008-35-1 CAPLUS  
CN Benzenepropanoic acid, α-(2-bromophenyl)-4-chloro-, methyl ester  
(CA INDEX NAME)

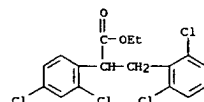


RN 64008-36-2 CAPLUS  
CN Benzenepropanoic acid, 2-chloro-α-(4-chlorophenyl)-, ethyl ester  
(CA INDEX NAME)

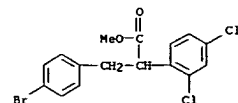
L4 ANSWER 112 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



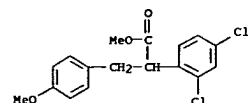
RN 64008-41-9 CAPLUS  
CN Benzenepropanoic acid, 2,6-dichloro-α-(2,4-dichlorophenyl)-, ethyl ester  
(CA INDEX NAME)



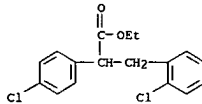
RN 64008-42-0 CAPLUS  
CN Benzenepropanoic acid, 4-bromo-α-(2,4-dichlorophenyl)-, methyl ester  
(CA INDEX NAME)



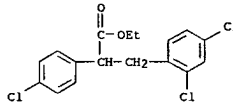
RN 64008-44-2 CAPLUS  
CN Benzenepropanoic acid, α-(2,4-dichlorophenyl)-4-methoxy-, methyl ester  
(CA INDEX NAME)



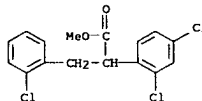
L4 ANSWER 112 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



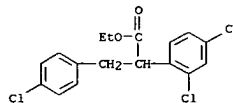
RN 64008-37-3 CAPLUS  
CN Benzenepropanoic acid, 2,4-dichloro-α-(4-chlorophenyl)-, ethyl ester  
(CA INDEX NAME)



RN 64008-38-4 CAPLUS  
CN Benzenepropanoic acid, 2-chloro-α-(2,4-dichlorophenyl)-, methyl ester  
(CA INDEX NAME)



RN 64008-39-5 CAPLUS  
CN Benzenepropanoic acid, 4-chloro-α-(2,4-dichlorophenyl)-, ethyl ester  
(CA INDEX NAME)



RN 64008-40-8 CAPLUS  
CN Benzenepropanoic acid, 2,4-dichloro-α-(2,4-dichlorophenyl)-, ethyl ester  
(CA INDEX NAME)

L4 ANSWER 113 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1977:72650 CAPLUS  
DN 86:72650

OREF 86:11519a,11522a

TI 1-(p-Aryl-β-R-ethyl)imidazoles as antimicrobial agents

IN Heeres, Jan; Backx, Leo J. J.; Mostmans, Joseph H.

PA Janssen Pharmaceutica N. V., Belg.

SO U.S., 18 pp. Division of U.S. 3,927,017.

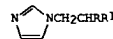
CODEN: USXXAM

DT Patent

LA English

FAN.CMT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3991201	A	19761109	US 1975-578777	19750519
US 3927017	A	19751216	US 1974-483587	19740627
PRAT US 1974-483587	A3	19740627		
GI				



AB Arylethylimidazoles I (R = 4-FC6H4, 4-ClC6H4, 2-ClC6H4, 2,4-Cl2C6H3, 2,6-Cl2C6H3, Ph; R1 = C1-8 alkyl, allyl, 2-ClC6H4CH2CHCH2, chlorobenzyl, bromobenzyl, cyclohexyl, cyclopentyl, 4-MeOC6H4CH2, 4-MeC6H4CH2) (55 compds.) were prepared by treating RCH2CN with R1Br, hydrolyzing RR1CHCN, esterifying RR1CHCO2H, LiBH4 reduction of RR1CHCO2Me, treatment of RR1CHCH2OH

with MeSO3H, and treatment of RR1CHCH2O3SMe with imidazole.

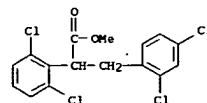
IT 59667-13-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and reduction of)

RN 59667-13-9 CAPLUS

CN Benzenepropanoic acid, 2,4-dichloro-α-(2,6-dichlorophenyl)-, methyl ester (CA INDEX NAME)



IT 59667-03-7P 59667-04-8P 59667-14-0P  
RL: SPN (Synthetic preparation); PREP (Preparation)

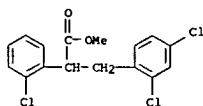
(preparation of)

RN 59667-03-7 CAPLUS

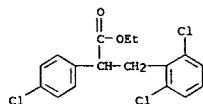
CN Benzenepropanoic acid, 2,4-dichloro-α-(2-chlorophenyl)-, methyl ester (CA INDEX NAME)

## CAS ONLINE PRINTOUT

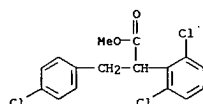
L4 ANSWER 113 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



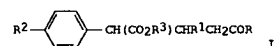
RN 59667-04-8 CAPLUS  
CN Benzenepropanoic acid, 2,6-dichloro-α-(4-chlorophenyl)-, ethyl ester (CA INDEX NAME)



RN 59667-14-0 CAPLUS  
CN Benzenepropanoic acid, 4-chloro-α-(2,6-dichlorophenyl)-, methyl ester (CA INDEX NAME)

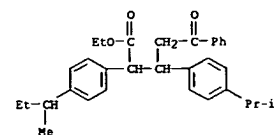


L4 ANSWER 115 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
AN 1976:446150 CAPLUS  
DN 85:46150  
OREF 85:7487a,7490a  
T1 The erythro and threo isomers of 2,3,4-substituted butanoic acids  
AU Fiserova, L.; Kakac, B.; Kraus, E.; Nemecek, O.  
CS Res. Inst. Pharm. Biochem., Prague, Czech.  
SO Collection of Czechoslovak Chemical Communications (1976), 41(2), 623-32  
CODEN: CCCCAK; ISSN: 0010-0765  
DT Journal  
LA English  
OS CASREACT 85:46150  
GI



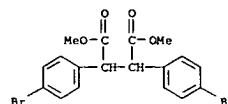
AB Title compds. I (R = Ph, Me3C; R1 = Ph, 4-Me2NC6H4, 4-Me2CHC6H4, 4-ClC6H4, 4-ONC6H4, 3-pyridyl, 4-MeOC6H4, 2-pyrrolyl; R2 = H, NO2, Me2CHCH2, EtCHMe, Me2CH, Cl, MeO; R3 = H, Et) were prepared and tested for antiinflammatory activity. I were prepared by reaction of RCOCH:CHR1 and p-R2C6H4CH2CO2R3 catalyzed by NaNH2 in NH3 (I) for R3 = H and by EtONa in Et2O for R3 = Et. Some I (R3 = H) were prepared by hydrolysis of the corresponding I (R3 = Et) in boiling AcOH-HBr. The threo isomers were obtained by the NaNH2-NH3(I) method or by epimerization of the erythro isomers via enol lactones. The highest antiinflammatory activity was found in I (R = Ph, R1 = 3-pyridyl, R2 = Me2CHCH2, R3 = H) and I (R = Ph, R1 = 4-Me2CHC6H4, R2 = R3 = H) (II). The effect of configuration on the antiinflammatory activity was also studied: threo-II was .apprx.15% more active than erythro-II.

IT 59771-47-OP 59771-64-1P 59771-65-2P  
59771-68-5P 59771-69-6P 59771-70-9P  
59771-71-OP  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and hydrolysis of)  
RN 59771-47-0 CAPLUS  
CN Benzenepentanoic acid, β-[4-(1-methylethyl)phenyl]-α-[4-(1-methylpropyl)phenyl]-δ-oxo-, ethyl ester (9CI) (CA INDEX NAME)



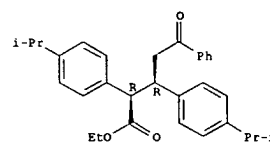
RN 59771-64-1 CAPLUS  
CN Benzenepentanoic acid, α,β-bis[4-(1-methylethyl)phenyl]-δ-oxo-, ethyl ester, (R\*,R\*)- (9CI) (CA INDEX NAME)

L4 ANSWER 114 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
AN 1976:477455 CAPLUS  
DN 85:77455  
OREF 85:12445a,12448a  
T1 Effect of substituents on the stereochemistry of the Reformatskii reaction  
AU Mladenova, M.; Blagoev, B.; Kurtev, B.  
CS Inst. Org. Chem., Sofia, Bulg.  
SO Doklady Bolgarskoi Akademii Nauk (1975), 28(12), 1633-6  
CODEN: DBANAD; ISSN: 0366-8681  
DT Journal  
LA French  
AB The Reformatskii reaction of RCGH4CHO (R = H, p-Me, o-Me, p-Cl, o-Cl, p-MeO) and l-naphthaldehyde with p-R1C6H4CHBrCO2Me (R1 = Br, H) gave an .apprx.50:50 mixture of erythro- and threo-RCGH4CH(OH)CH(C6H4R1-p)CO2Me or the l-naphthyl analog in Et2O. In (MeO)2CH2, the erythro isomer was slightly favored (.apprx.60:40); in Me2SO, the threo isomer was favored (.apprx.70:30). In Me2SO, p-R1C6H4CH(CO2Me)CH(CO2Me)C6H4R-p was also formed. The lack of substituent effects in the Reformatskii reaction was explained by a transition state resembling the starting materials.  
IT 60079-94-9P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)  
RN 60079-94-9 CAPLUS  
CN Butanedioic acid, 2,3-bis(4-bromophenyl)-, dimethyl ester (9CI) (CA INDEX NAME)



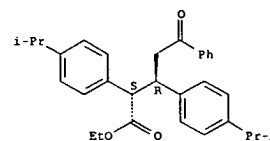
L4 ANSWER 115 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

Relative stereochemistry.



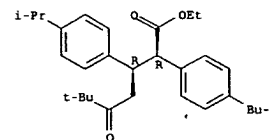
RN 59771-65-2 CAPLUS  
CN Benzenepentanoic acid, α,β-bis[4-(1-methylethyl)phenyl]-δ-oxo-, ethyl ester, (R\*,S\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



RN 59771-68-5 CAPLUS  
CN Benzenepentanoic acid, β-(3,3-dimethyl-2-oxobutyl)-4-(1-methylethyl)-α-[4-(2-methylpropyl)phenyl]-, ethyl ester, (R\*,R\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

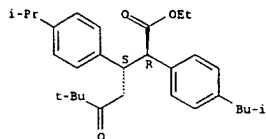


RN 59771-69-6 CAPLUS  
CN Benzenepentanoic acid, β-(3,3-dimethyl-2-oxobutyl)-4-(1-methylethyl)-α-[4-(2-methylpropyl)phenyl]-, ethyl ester, (R\*,S\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

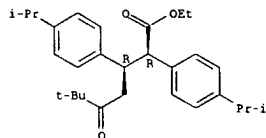
## CAS ONLINE PRINTOUT

L4 ANSWER 115 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



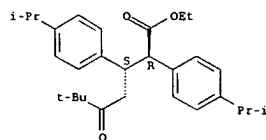
RN 59771-70-9 CAPLUS  
 CN Benzenepropanoic acid,  $\beta$ -(3,3-dimethyl-2-oxobutyl)-4-(1-methylethyl)- $\alpha$ -(4-(1-methylethyl)phenyl)-, ethyl ester, (R\*,R\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



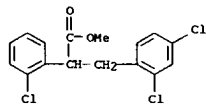
RN 59771-71-0 CAPLUS  
 CN Benzenepropanoic acid,  $\beta$ -(3,3-dimethyl-2-oxobutyl)-4-(1-methylethyl)- $\alpha$ -(4-(1-methylethyl)phenyl)-, ethyl ester, (R\*,5')- (9CI) (CA INDEX NAME)

Relative stereochemistry.

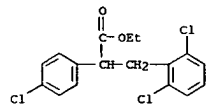


L4 ANSWER 116 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

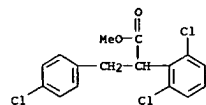
RN 59667-03-7 CAPLUS  
 CN Benzenepropanoic acid, 2,4-dichloro- $\alpha$ -(2-chlorophenyl)-, methyl ester (CA INDEX NAME)



RN 59667-04-8 CAPLUS  
 CN Benzenepropanoic acid, 2,6-dichloro- $\alpha$ -(4-chlorophenyl)-, ethyl ester (CA INDEX NAME)

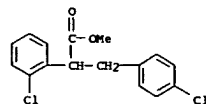


RN 59667-14-0 CAPLUS  
 CN Benzenepropanoic acid, 4-chloro- $\alpha$ -(2,6-dichlorophenyl)-, methyl ester (CA INDEX NAME)



IT 59667-36-6 59667-37-7 59667-38-8  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reduction of)

RN 59667-36-6 CAPLUS  
 CN Benzenepropanoic acid, 4-chloro- $\alpha$ -(2-chlorophenyl)-, methyl ester (CA INDEX NAME)

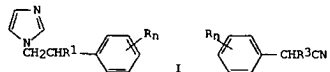


RN 59667-37-7 CAPLUS

L4 ANSWER 116 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1976:433007 CAPLUS  
 DN 85:33007  
 OREF 85:5361a,5364a  
 T1 1-( $\beta$ -Aryl- $\beta$ -R-ethyl)imidazoles  
 IN Heeres, Jann; Backx, Leo J. J.; Mostmans, Joseph H.  
 PA Janssen Pharmaceutica N. V., Belg.  
 SO U.S., 16 pp.  
 CODEN: USXXAM  
 DT Patent  
 LA English  
 FAN.CNT 2

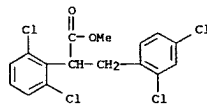
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 3927017	A	19751216	US 1974-483587	19740627
US 3991201	A	19761109	US 1975-578777	19750519
PRAI US 1974-483587	A3	19740627		
GI				



AB Imidazoles I [Rn = Cl, F, H, 2,4-, 2,6-Cl2; R1 = alkyl, allyl, cycloalkyl, CH2C6H5R2, CH2C6H4Cl2-2,4, CH2C6H4Cl2-2,6; R2 = Cl, Br, 4-Me, 4-MeO, CH2CH2Ph] (53 compds.), fungicides, bacteriostats, and bactericides at 0.1-100  $\mu$ g/ml, were prepared by treating benzenecetonitriles II (R3 = H) with halides R1X, hydrolyzing-esterifying II (R3 = R1) with HCl in MeOH or EtOH, reducing the ester RnCH5-nCHR1CO2R4 (R4 = Me, Et) with NaBH4 over LiX in MeCN, mesylating the alc. RnCH5-nCHR1CH2OH, and treating the methanesulfonate with imidazole.

IT 59667-13-9P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation and reduction of)

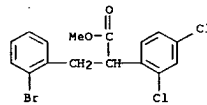
RN 59667-13-9 CAPLUS  
 CN Benzenepropanoic acid, 2,4-dichloro- $\alpha$ -(2,6-dichlorophenyl)-, methyl ester (CA INDEX NAME)



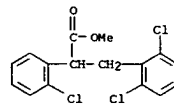
IT 59667-03-7P 59667-04-8P 59667-14-0P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

L4 ANSWER 116 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

RN 59667-38-8 CAPLUS  
 CN Benzenepropanoic acid, 2-bromo- $\alpha$ -(2,4-dichlorophenyl)-, methyl ester (CA INDEX NAME)

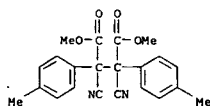


RN 59667-38-8 CAPLUS  
 CN Benzenepropanoic acid, 2,6-dichloro- $\alpha$ -(2-chlorophenyl)-, methyl ester (CA INDEX NAME)

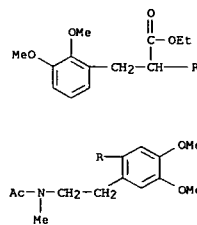


# CAS ONLINE PRINTOUT

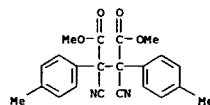
L4 ANSWER 117 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1974:426419 CAPLUS  
 DN 81:26419  
 OREF 81:4265a,4268a  
 TI Testing procedure for catalysts in polyester moldings  
 AU Simmonds, John; Roskott, L.  
 CS Novadel Ltd., Gillingham/Kent, UK  
 SO Proceedings of the Annual Conference - Reinforced Plastics/Composites Institute, Society of the Plastics Industry (1973), 28, 1C, 12 pp.  
 CODEN: PCRPB6; ISSN: 0160-9750  
 DT Journal  
 LA English  
 AB The most useful tests were determination of the time to peak exotherm of pure polyester and of molding compound and determination of shrinkage as measured by a displacement meter, which indicated min. molding time, and the kick-off time (where the kick-off temperature showed a marked diversion from the warming-up curve, which was a measure of gel time. Also valuable were residual styrene [100-42-5] determination, indicating degree of curing, and gloss determination by a gloss meter (D1M 67530), the main parameter by which the appearance of the product was judged. Four different peroxide types, i.e., benzoyl peroxide [94-36-0], tert-butyl peroxide-2-ethyl hexanoate [3006-82-4], 1,1-bis(tert-butyl peroxy)-3,3,5-trimethylcyclohexane [6731-36-8], and (m-phenylene diisopropylidene)bis[tert-butyl peroxide] [2212-81-9] were used as initiators, and the test methods also predicted the performance of a bibenzyl or C-C initiator, 1,2-bis(p-methylphenyl)-1,2-dimethoxycarbonyl-1,2-dicyanoethane [31249-03-3].  
 IT 31249-03-3  
 RL: CAT (Catalyst use); USES (Uses)  
 (catalyst, for crosslinking of unsatd. polyester molding compound, evaluation of)  
 RN 31249-03-3 CAPLUS  
 CN Butanedioic acid, 2,3-dicyano-2,3-bis(4-methylphenyl)-, dimethyl ester (9CI) (CA INDEX NAME)



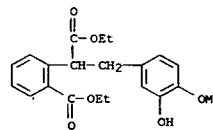
L4 ANSWER 118 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1974:133668 CAPLUS  
 DN 80:133668  
 OREF 80:21561a,21564a  
 TI Photosensitized oxidation of an enaminketone. Total synthesis of a rhoeadine alkaloid  
 AU Orito, K.; Manake, R. H.; Rodrigo, R.  
 CS Dep. Chem., Univ. Waterloo, Waterloo, ON, Can.  
 SO Journal of the American Chemical Society (1974), 96(6), 1944-5  
 CODEN: JACSAT; ISSN: 0002-7863  
 DT Journal  
 LA English  
 GI For diagram(s), see printed CA Issue.  
 AB (i) cis-Alpinine I was synthesized. Indenone intermediate II, prepared by standard methods was oxidatively rearranged in a dye-sensitized photo-oxidation process to ketolactone III which was transformed into I.  
 IT 52658-50-1P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 52658-50-1 CAPLUS  
 CN Benzenepropanoic acid, α-[2-[2-(acetylmethylamino)ethyl]-4,5-dimethoxyphenyl]-2,3-dimethoxy-, ethyl ester (CA INDEX NAME)



L4 ANSWER 119 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1974:84002 CAPLUS  
 DN 80:84002  
 OREF 80:13533a,13536a  
 TI Evaluating catalysts for polyester molding compounds  
 AU Simmonds, J.; Roskott, L.  
 CS Novadel Ltd., Akzo Chem. Div., Gillingham/Kent, UK  
 SO Modern Plastics (1973), 50(10), 168-9, 172, 174, 178  
 CODEN: MOPLAY; ISSN: 0026-8275  
 DT Journal  
 LA English  
 AB Improved gloss and stability were imparted to polyester molding compds. by replacement of diacyl, perketal, peroxy ester, or dialkyl peroxide catalysts with 1,2-bis(p-methylphenyl)-1,2-dicarbomethoxy-1,2-dicyanoethane [31249-03-3].  
 IT 31249-03-3  
 RL: USES (Uses)  
 (catalysts for crosslinking of unsatd. polyesters)  
 RN 31249-03-3 CAPLUS  
 CN Butanedioic acid, 2,3-dicyano-2,3-bis(4-methylphenyl)-, dimethyl ester (9CI) (CA INDEX NAME)

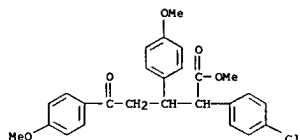


L4 ANSWER 120 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1974:59616 CAPLUS  
 DN 80:59616  
 OREF 80:9665a,9668a  
 TI Chemical structure and sweet taste of isocoumarins and their derivatives.  
 IV  
 AU Yamato, Masatoshi; Sato, Koichi; Hashigaki, Kuniko; Ishikawa, Tadataka; Koyama, Takaji  
 CS Med. Sch., Univ. Okayama, Okayama, Japan  
 SO Yakugaku Zasshi (1973), 93(12), 1639-42  
 CODEN: YKZJAJ; ISSN: 0031-6903  
 DT Journal  
 LA Japanese  
 GI For diagram(s), see printed CA Issue.  
 AB Further investigation was made on the derivs. of β-(3-hydroxy-4-methoxyphenyl)ethylbenzene which is regarded as the essential structure for the sweet taste of phyllodulcin, and compds. (I-XII) were synthesized. Both VIII and XI were sweet, whereas II, III, and IV were tasteless, and V, VI, VII, IX, X, and XII revealed a bitter taste. On the basis of these data, a delicate relation between the mol. structure and sweet taste receptor site was presumed.  
 IT 51458-16-3P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 51458-16-3 CAPLUS  
 CN Benzenepropanoic acid, α-[2-(ethoxycarbonyl)phenyl]-3-hydroxy-4-methoxy-, ethyl ester (CA INDEX NAME)

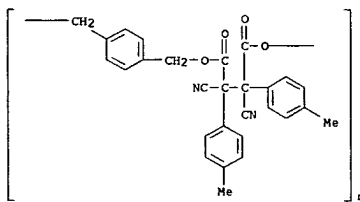


## CAS ONLINE PRINTOUT

L4 ANSWER 121 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1973:515413 CAPLUS  
 DN 79:115413  
 OREF 79:18743a,18746a  
 TI Reactions of the 2-(1H)-pyridinones prepared from 4,4-dimethoxychalcone and anisal acetone  
 AU Sammour, A.; Fahmy, A. Farouk; Abd El-Rahman, S.; Akhnookh, Y.; Abd Elmoaz, M. S.  
 CS Fac. Sci., Ain Shams Univ., Cairo, Egypt  
 SO United Arab Republic Journal of Chemistry (1971), 14(6), 581-98  
 CODEN: UAJCAZ; ISSN: 0372-3704  
 DT Journal  
 LA English  
 GI For diagram(s), see printed CA Issue.  
 AB  $\text{ROCH:CHC}_6\text{H}_4\text{OMe-p}$  underwent cycloaddn. with  $\text{NCH}_2\text{CO}_2\text{Et}$  to give the pyridines I ( $\text{R} = \text{Me}$ ,  $\text{p-MeOC}_6\text{H}_4$ ) and the nicotinoates II ( $\text{R} = \text{Me}$ ,  $\text{p-MeOC}_6\text{H}_4$ ).  $\text{MeCOCH:CHC}_6\text{H}_4\text{OMe-p}$  and  $\text{NCH}_2\text{CN}$  gave the nicotinate III. I was treated with Grignard reagents,  $\text{POCl}_3$ , and its potassium salt alkylated; e.g. I ( $\text{R} = \text{Me}$ ) and  $\text{PhMgBr}$  gave the pyridone IV.  
 IT 50548-86-2P  
 RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)  
 RN 50548-86-2 CAPLUS  
 CN Benzenepentanoic acid,  $\alpha$ -(4-chlorophenyl)-4-methoxy- $\beta$ -(4-methoxyphenyl)- $\delta$ -oxo-, methyl ester (9CI) (CA INDEX NAME)

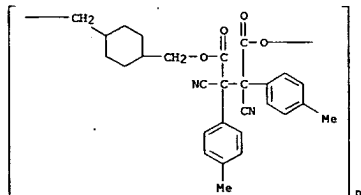


L4 ANSWER 122 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1973:111801 CAPLUS  
 DN 78:111801  
 OREF 78:17963a,17966a  
 TI Oxidative carbon-carbon coupling. III. Oxidative polymerization of bifunctional arylcyanoacetic esters  
 AU De Jongh, H. A. P.; De Jonge, C. R. H. I.; Sinnige, H. J. M.; Magre, E. P.; Mijs, W. J.  
 CS Corp. Res. Dep., Akzo Res. Lab., Arnhem, Neth.  
 SO Journal of Polymer Science, Polymer Chemistry Edition (1973), 11(2), 345-52  
 CODEN: JPLCAT; ISSN: 0449-296X  
 DT Journal  
 LA English  
 AB Bifunctional arylcyanoacetic esters were oxidatively coupled to give high mol. weight, colorless, amorphous polymers, soluble in common organic solvents.  
 Brittle films were obtained by casting or compression molding. Thermal stability of the polymer was poor due to the weak C-C bond formed by oxidative coupling. Radical dissociation-recombination of this bond resulted in meso-dl equilibration, lowering the glass transition temperature of the polymers.  
 IT 41072-40-6 41072-41-7  
 RL: PRP (Properties) (solution and thermal properties of)  
 RN 41072-40-6 CAPLUS  
 CN Poly[oxy[2,3-dicyano-2,3-bis(4-methylphenyl)-1,4-dioxo-1,4-butanediyl]oxymethylene-1,4-phenylenemethylene] (9CI) (CA INDEX NAME)



RN 41072-41-7 CAPLUS  
 CN Poly[oxy[2,3-dicyano-2,3-bis(4-methylphenyl)-1,4-dioxo-1,4-butanediyl]oxymethylene-1,4-cyclohexanediylmethylene] (9CI) (CA INDEX NAME)

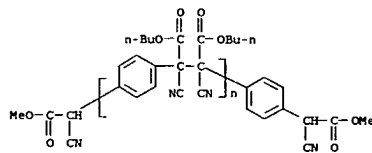
L4 ANSWER 122 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



L4 ANSWER 123 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1972:552898 CAPLUS  
 DN 77:152898  
 OREF 77:25147a,25150a  
 TI Radical-initiated chemical reactions  
 PA Akzo N. V.  
 SO Neth. Appl., 8 pp.  
 CODEN: NAXXAN  
 DT Patent  
 LA Dutch  
 FAN: CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI NL 7205982		19720725	NL 1972-5982	19720503

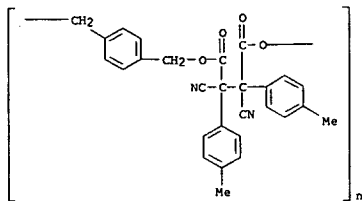
AB Three I and five II were used as radical polymerization initiators for styrene [100-42-5] or Me methacrylate (III) [80-62-6] at 80-120.deg.; 24-98% yields were obtained. In addition II (R1 = p-xylylene, R2 = Me, Y = O, n = 190) (IV) was a stabilizer for III <40.deg.. In an example, 25 ml styrene and 56.8 mg IV was kept 2 hr at 120.deg. to give 56% polystyrene [9003-53-6] as compared to 34% for tert-Bu2O2 initiator. The I had R = Me, Bu, or n-decyl with m = 40-60; other II had R1 = 1,4-dimethylenecyclohexane, cyclohexylidene, or 2,2,4,4-tetramethylcyclobutylene; R2 = Me, or tert-octyl; Y = O or NH; and n = 85-190.  
 IT 38807-91-9 41072-40-6 41072-41-7  
 RL: CAT (Catalyst use); USES (Uses) (catalysts, for polymerization of styrene)  
 RN 38807-91-9 CAPLUS  
 CN Poly[1,4-phenylene[1,2-bis(butoxycarbonyl)-1,2-dicyano-1,2-ethanediyl],  $\alpha$ -(1-cyano-2-methoxy-2-oxoethyl)- $\alpha$ -(4-(1-cyano-2-methoxy-2-oxoethyl)phenyl)- (9CI) (CA INDEX NAME)



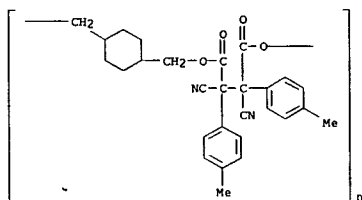
RN 41072-40-6 CAPLUS  
 CN Poly[oxy[2,3-dicyano-2,3-bis(4-methylphenyl)-1,4-dioxo-1,4-butanediyl]oxymethylene-1,4-phenylenemethylene] (9CI) (CA INDEX NAME)

## CAS ONLINE PRINTOUT

L4 ANSWER 123 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 41072-41-7 CAPLUS  
CN Poly[oxy(2,3-dicyano-2,3-bis(4-methylphenyl)-1,4-dioxo-1,4-butanediyl)oxymethylene-1,4-cyclohexanediylmethylene] (9CI) (CA INDEX NAME)



L4 ANSWER 124 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1972:502330 CAPLUS

DN 77:102330

OREF 77:16876h,16877a

T1 Radical initiation of vinyl polymerization by  $\alpha,\alpha',\alpha''$ -tetrasubstituted dibenzyls

AU De Jongh, H. A. P.; De Jonge, C. R. H. I.; Huysmans, W. G. B.; Sinnige, H. J. M.; De Klein, W. J.; Mijns, W. J.; Jaspers, H.

CS Akzo Res. Lab., Arnhem, Neth.

SO Makromolekulare Chemie (1972), 157, 279-98

CODEN: MACEAK; ISSN: 0025-116X

DT Journal

LA English

AB The polymerization reactivity of styrene [100-42-5], Me methacrylate [80-62-6],

and acrylonitrile [107-13-1] in the presence of  $\alpha,\alpha'$ -dicyanodibenzyls  $\alpha,\alpha'$ -disubstituted with ester, nitrile, amide, or Ph groups in the presence of  $\alpha,\alpha',\alpha''$ -tetrakis(methoxycarbonyl)dibenzyl [34404-71-2] was higher than that of vinyl acetate [108-05-4] and vinyl chloride [75-01-4], with the styrene polymerization rate generally comparable to that in the presence of peroxides and

affected by the  $\alpha$ - and ring-substituents and stereochemistry. The meso- $\alpha,\alpha'$ -dicyanodibenzyls  $\alpha,\alpha'$ -disubstituted with ester groups gave a 2.5-3.5 fold faster polymerization than their DL-isomers.

The dissociation rate consts., determined from NMR line widths, indicated that the  $\alpha,\alpha'$ -dicyanodibenzyls  $\alpha,\alpha'$ -disubstituted with ester groups were good initiators while those with Ph and nitrile groups were inefficient. Initiation and termination mechanisms based on 1,2-addition of the dibenzyl catalysts to styrene are given.

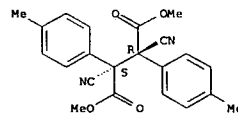
IT 30698-37-4 30698-38-5 30698-39-6  
30698-40-9 34404-72-3 34404-73-4  
34405-36-2 34405-37-3 37760-82-0  
37761-19-6 37761-20-9 37761-21-0  
RL: CAT (Catalyst use); USES (Uses)

(catalysts, for polymerization of vinyl compds.)

RN 30698-37-4 CAPLUS

CN Butanedioic acid, 2,3-dicyano-2,3-bis(4-methylphenyl)-, dimethyl ester, (R\*,S\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

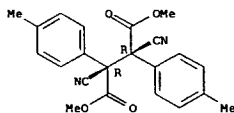


RN 30698-38-5 CAPLUS

CN Butanedioic acid, 2,3-dicyano-2,3-bis(4-methylphenyl)-, dimethyl ester, (R\*,R\*)- (9CI) (CA INDEX NAME)

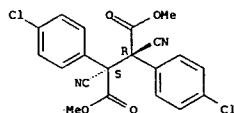
L4 ANSWER 124 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

Relative stereochemistry.



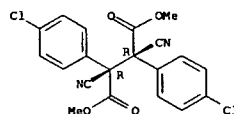
RN 30698-39-6 CAPLUS  
CN Butanedioic acid, 2,3-bis(4-chlorophenyl)-2,3-dicyano-, dimethyl ester, (R\*,S\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



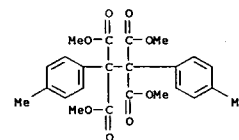
RN 30698-40-9 CAPLUS  
CN Butanedioic acid, 2,3-bis(4-chlorophenyl)-2,3-dicyano-, dimethyl ester, (R\*,R\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

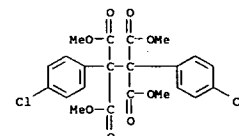


RN 34404-72-3 CAPLUS  
CN 1,1,2,2-Ethanetetra-carboxylic acid, 1,2-bis(4-methylphenyl)-, tetramethyl ester (9CI) (CA INDEX NAME)

L4 ANSWER 124 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

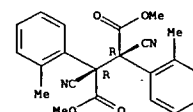


RN 34404-73-4 CAPLUS  
CN 1,1,2,2-Ethanetetra-carboxylic acid, 1,2-bis(4-chlorophenyl)-, tetramethyl ester (9CI) (CA INDEX NAME)



RN 34405-36-2 CAPLUS  
CN Butanedioic acid, 2,3-dicyano-2,3-bis(2-methylphenyl)-, dimethyl ester, (R\*,R\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

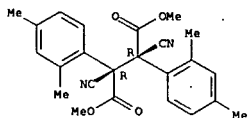


RN 34405-37-3 CAPLUS  
CN Butanedioic acid, 2,3-dicyano-2,3-bis(2,4-dimethylphenyl)-, dimethyl ester, (R\*,R\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

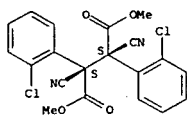
## CAS ONLINE PRINTOUT

L4 ANSWER 124 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



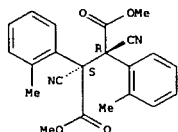
RN 37760-82-0 CAPLUS  
CN Butanedioic acid, 2,3-bis(2-chlorophenyl)-2,3-dicyano-, dimethyl ester, (R\*,R\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



RN 37761-19-6 CAPLUS  
CN Butanedioic acid, 2,3-bis(2-methylphenyl)-2,3-dicyano-, dimethyl ester, (R\*,S\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



RN 37761-20-9 CAPLUS  
CN Butanedioic acid, 2,3-bis(3-chlorophenyl)-2,3-dicyano-, dimethyl ester, (R\*,S\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

L4 ANSWER 125 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1972:447849 CAPLUS  
DN 77:47849

OREF 77:7922h,7923a

TI Oxidative carbon-carbon coupling. II. Effect of ring substituents on the oxidative carbon-carbon coupling of arylmalonic esters, arylmalonodinitriles, and arylcyanoacetic esters

AU De Jongh, H. A. P.; De Jonge, C. R. H. I.; Sinnige, H. J. M.; De Klein, W. J.; Huysmans, W. G. B.; Mijs, W. J.; Van den Hoek, W. J.; Smidt, J.

CS Corp. Res. Dep., Akzo Res. Lab., Arnhem, Meth.

SO Journal of Organic Chemistry (1972), 37(12), 1960-6

CODEN: JOCEAH; ISSN: 0022-3263

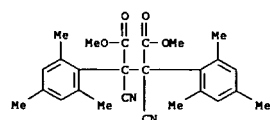
DT Journal  
LA English

AB Arylmalonic esters and arylmalonodinitriles can be coupled oxidatively to the corresponding bibenzyls. Good yields of dimers are obtained when a para substituent (Me, Cl) is introduced, which inhibits the formation of higher oligomers through benzylic C-para C coupling. Substitution at both ortho positions and the para position (Me) in phenylcyanoacetic esters completely inhibits C-C coupling by steric crowding. Keteneimines are formed instead by C-N coupling. Substitution at one ortho position (Me) partially gives the usual C-C coupling together with benzylic C-para C coupling (oligomer formation) in case of a free para-position and C-N coupling (keteneimine formation) in case of a Me-substituted para-position. The thermal dissociation of the dimers into radicals is confirmed by ESR anal. From NMR line width measurements kinetic parameters for the dissociation reaction are obtained.

IT 39514-80-2  
RL: PRP (Properties)  
(ESR of)

RN 39514-80-2 CAPLUS

CN Butanedioic acid, 2,3-dicyano-2,3-bis(2,4,6-trimethylphenyl)-, dimethyl ester (9CI) (CA INDEX NAME)



IT 30698-38-5P 34404-72-3P 34404-73-4P

34405-36-2P 34405-37-3P

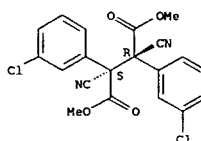
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

RN 30698-38-5 CAPLUS

CN Butanedioic acid, 2,3-dicyano-2,3-bis(4-methylphenyl)-, dimethyl ester, (R\*,R\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

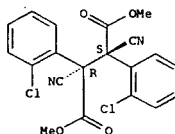
L4 ANSWER 124 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 37761-21-0 CAPLUS

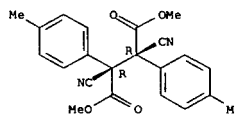
CN Butanedioic acid, 2,3-bis(2-chlorophenyl)-2,3-dicyano-, dimethyl ester, (R\*,S\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



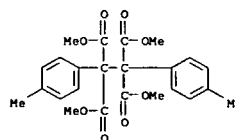
L4 ANSWER 125 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

(Continued)



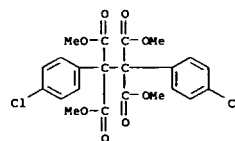
RN 34404-72-3 CAPLUS

CN 1,1,2,2-Ethanetetra-carboxylic acid, 1,2-bis(4-methylphenyl)-, tetramethyl ester (9CI) (CA INDEX NAME)



RN 34404-73-4 CAPLUS

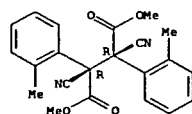
CN 1,1,2,2-Ethanetetra-carboxylic acid, 1,2-bis(4-chlorophenyl)-, tetramethyl ester (9CI) (CA INDEX NAME)



RN 34405-36-2 CAPLUS

CN Butanedioic acid, 2,3-dicyano-2,3-bis(2-methylphenyl)-, dimethyl ester, (R\*,R\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



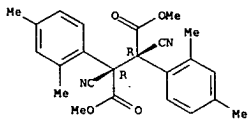
## CAS ONLINE PRINTOUT

L4 ANSWER 125 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

RN 34405-37-3 CAPLUS

CN Butanedioic acid, 2,3-dicyano-2,3-bis(2,4-dimethylphenyl)-, dimethyl ester, (R\*,R\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



L4 ANSWER 126 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1972:127800 CAPLUS

DN 76:127800

OREF 76:20691a,20694a

TI Methyl 1,2-diphenylethanetetracarboxylates as initiators for polymerization of styrene

IN De Jongh, Hendrik A. P.; De Jonge, Cornelis R. H. I.

PA AKZO G.m.b.H.

SO Ger. Offen., 14 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2132740	A	19720120	DE 1971-2132740	19710701
DE 2132740	B2	19800703		
DE 2132740	C3	19810430		
NL 7009925	A	19720105	NL 1970-9925	19700703
GB 1336675	A	19731107	GB 1971-30874	19710701
BE 769414	A1	19711116	BE 1971-105399	19710702
US 3896099	A	19750722	US 1973-401604	19730928
NL 1970-9925	A	19700703		
US 1971-159949	A2	19710702		

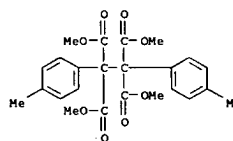
AB Tetra-Me 1,2-diphenylethanetetracarboxylate [34404-71-2], tetra-Me 1,2-bis(p-chlorophenyl)ethanetetracarboxylate [34404-73-4], or tetra-Me 1,2-bis(p-tolyl)ethanetetracarboxylate (I) [34404-72-3], prepared by oxidative coupling of the corresponding di-Me arylmalonates with  $\text{KMnO}_4$  or  $\text{K}_3\text{Fe}(\text{CN})_6$ , were used as radical initiators for the polymerization of styrene and, in contrast to peroxides or azodinitriles, did not cause the formation of gaseous products. Thus, 100 ml styrene and 250 mg I were heated 2 hr at 120 deg. to give 78% polystyrene [9003-53-6] as compared to 34% for tert-Bu peroxide.

IT 34404-72-3 34404-73-4

RL: CAT (Catalyst use); USES (Uses)  
(catalysts, for polymerization of styrene)

RN 34404-72-3 CAPLUS

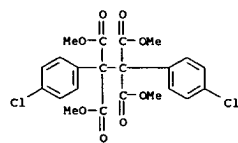
CN 1,1,2,2-Ethanetetracarboxylic acid, 1,2-bis(4-methylphenyl)-, tetramethyl ester (9CI) (CA INDEX NAME)



RN 34404-73-4 CAPLUS

CN 1,1,2,2-Ethanetetracarboxylic acid, 1,2-bis(4-chlorophenyl)-, tetramethyl ester (9CI) (CA INDEX NAME)

L4 ANSWER 126 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



L4 ANSWER 127 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1972:113055 CAPLUS

DN 76:113055

OREF 76:18253a,18256a

TI Anxiolytic phenyl-2-pyrrolidinones

IN Strubbe, Josef; Linz, Raymond

PA UCB Union Chimique-Chemische Bedrijven S. A.

SO Ger. Offen., 32 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2136571	A	19720127	DE 1971-2136571	19710722
DE 2136571	C2	19820325		
GB 1350582	A	19740418	GB 1970-35948	19700724
IL 37147	A	19740630	IL 1971-37147	19710624
NL 7109930	A	19720126	NL 1971-9930	19710719
FR 2100946	A5	19720324	FR 1971-26784	19710720
FR 2100946	B1	19750606		
HU 162344	B	19730129	HU 1971-VI178	19710721
ES 393496	A1	19730816	ES 1971-393496	19710721
RO 61127	A1	19761115	RO 1971-67732	19710721
CS 174822	B2	19770429	CS 1971-5382	19710721
CS 174849	B2	19770429	CS 1975-6089	19710721
OK 135584	B	19770523	OK 1971-3580	19710721
FI 55184	B	19790228	FI 1971-2068	19710721
FI 55184	C	19790611		
RO 71354	A1	19820226	RO 1971-81864	19710721
BE 770308	A1	19720124	BE 1971-3254	19710722
CA 954870	A1	19740917	CA 1971-118906	19710722
IN 132195	A1	19750802	IN 1971-132195	19710722
JP 54017734	B	19790702	JP 1971-54902	19710722
ZA 7104911	A	19720426	ZA 1971-4911	19710723
AT 304530	B	19730110	AT 1971-6430	19710723
AU 7131575	A	19730125	AU 1971-31575	19710723
CH 537921	A	19730731	CH 1972-10160	19710723
CH 538474	A	19730815	CH 1971-10857	19710723
AT 310150	B	19730925	AT 1972-1805	19710723
SU 479293	A3	19750730	SU 1971-1891416	19710723
SE 379347	B	19751006	SE 1971-9515	19710723
SU 488410	A3	19751015	SU 1971-1689301	19710723
PL 82194	B1	19751031	PL 1971-149583	19710723
US 3956314	A	19760511	US 1973-417528	19731120
GB 1970-35948	A	19700724		
US 1971-165342	A2	19710722		

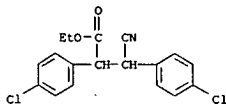
GI For diagram(s), see printed CA Issue.

AB Title compds. (I, R = H, alkyl,  $\text{PhCH}_2$ , propynyl, allyl, or cyclopentyl; R1 = H, alkyl, allyl, or (substituted) phenyl; R2 = H or monosubstituted phenyl; R3 = H, Et, Ph, or 2,4-Me<sub>2</sub>C<sub>6</sub>H<sub>3</sub>) were prepared by several methods: cyclization of 4-aminobutyric acids, decarboxylation of 3-carboxy-3-R1-2-pyrrolidinones, or known reactions of phenyl-pyrrolidinones gave I (R = H) which reacted with NaH and RI to give 1-substituted I. Thus, p-ClC<sub>6</sub>H<sub>4</sub>CH(CN)CH<sub>2</sub>PhCO<sub>2</sub>Et in EtOH was hydrogenated over Raney Ni 15 hr at 90-5° and 100 atm to give .apprx.50% cis-I (R = R3 = H, R1 = Ph, R2 = 4-p-ClC<sub>6</sub>H<sub>4</sub>) (II) and the trans isomer separated by crystallization. Similarly prepared were .apprx.45 I, e.g. (R-R3 given):

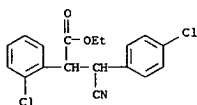
[H, Me, H, 2,4-Me<sub>2</sub>C<sub>6</sub>H<sub>3</sub>] (III); H, allyl, 3-p-MeC<sub>6</sub>H<sub>4</sub>, H; hexyl, Ph, 4-p-ClC<sub>6</sub>H<sub>4</sub>, H. Anxiolytic effects were caused by min. doses of 0.0024 mole II/kg rat or

## CAS ONLINE PRINTOUT

L4 ANSWER 127 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 AN 1971:551041 CAPLUS  
 DN 75:151041  
 OREF 75:23821a,23824a  
 TI Oxidative carbon-carbon coupling. I. Oxidative coupling of  $\alpha$ -substituted benzylcyanides  
 AU De Jongh, H. A. P.; De Jonge, C. R. H. I.; Mijs, W. J.  
 CS Corp. Res. Dep., Akzo Res. Lab., Arnhem, Neth.  
 SO Journal of Organic Chemistry (1971), 36(21), 3160-8  
 CODEN: JOCEAH; ISSN: 0022-3263  
 DT Journal  
 LA English  
 GI For diagram(s), see printed CA Issue.  
 AB Oxidative dimerization of benzylcyanides  $\alpha$ -substituted with an ester, acyl, or amide group, with a Cu-amine-O system or with other oxidants gave the corresponding 2,3-diphenylsuccinonitriles as a mixture of diastereoisomers in high yields. Configurational assignments are made for dl- and meso-1 on the basis of cyclization reactions to give mono or bicyclic succinimides II and III. Thermal equilibration of the dl and meso diastereoisomers takes place in various solvents at 80-150° via radical dissociation-recombination along the central C-C bond. For dimers

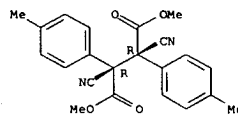


RN 36263-00-0 CAPLUS  
 CN Benzenepropanoic acid, 4-chloro- $\alpha$ -(2-chlorophenyl)- $\beta$ -cyano-, ethyl ester (CA INDEX NAME)



(I (R=H, Me) the equilibrium constant K (dl/meso) is 13-16. For the meso  $\rightarrow$  dl conversion of I (R=H, Me),  $\Delta H^\ddagger$  is 22-23 kcal/mole and  $\Delta S^\ddagger$  is -11 to -12 entropy units. Thermal treatment of the para unsubstituted diester I (R=H) at 130-170° gives redistribution to the monomer PhCH(CN)CO<sub>2</sub>Me (IV) and oligomers (tri- to pentamers). Similarly, the oxidative coupling of the para unsubstituted benzylcyanides IV, PhCH(CN)Ac, and  $\alpha$ -(piperidinocarbonyl)benzylcyanide gave rise to various amounts of oligomers. Both oligomerization reactions are impeded by introduction of a para substituent.  
 IT 30698-38-5P 30698-39-6P 30698-40-9P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 RN 30698-38-5 CAPLUS  
 CN Butanedioic acid, 2,3-dicyano-2,3-bis(4-methylphenyl)-, dimethyl ester, (R\*,R\*)- (9CI) (CA INDEX NAME)

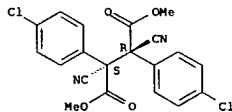
Relative stereochemistry.



RN 30698-39-6 CAPLUS  
 CN Butanedioic acid, 2,3-bis(4-chlorophenyl)-2,3-dicyano-, dimethyl ester, (R\*,S\*)- (9CI) (CA INDEX NAME)

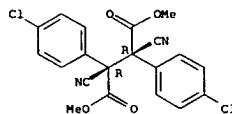
Relative stereochemistry.

L4 ANSWER 128 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



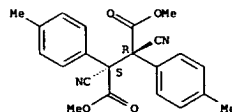
RN 30698-40-9 CAPLUS  
 CN Butanedioic acid, 2,3-bis(4-chlorophenyl)-2,3-dicyano-, dimethyl ester, (R\*,R\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



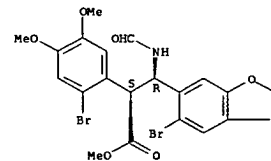
IT 30698-37-4  
 RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent) (rearrangement of, kinetics of)  
 RN 30698-37-4 CAPLUS  
 CN Butanedioic acid, 2,3-dicyano-2,3-bis(4-methylphenyl)-, dimethyl ester, (R\*,S\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



L4 ANSWER 129 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1971:551066 CAPLUS  
 DN 75:110166  
 OREF 75:17395a,17398a  
 TI Isoquinoline-type heterocycles from  $\beta$ -amino acids. II. Stereospecific syntheses of (+)-6,7-dialkoxy-3-aryl-4-(methoxycarbonyl)-1,2,3,4-tetrahydroisoquinolines and their derivatives  
 AU Haimova, Marietta A.; Spassov, Stefan L.; Novkova, Snezana I.; Palamareva, Mariana D.; Kurtev, Bogdan J.  
 CS Fac. Chem., Univ. Sofia, Sofia, Bulg.  
 SO Chemische Berichte (1971), 104(8), 2601-10  
 CODEN: CHBEAM; ISSN: 0009-2940  
 DT Journal  
 LA German  
 GI For diagram(s), see printed CA Issue.  
 AB Me (2)-3-amino-2,3-diarylpropionates gave under the conditions of the Pictet-Spengler reaction by cyclization stereospecifically in both the erythro and threo series 6,7-dialkoxy-3-aryl-4-(methoxycarbonyl)-1,2,3,4-tetrahydroisoquinolines (I). LiAlH<sub>4</sub> reduction of I gave the corresponding 4-hydroxymethyl derivs. From the NMR data reported, the conformations of the compds. are evaluated.  
 IT 33386-64-0P 33386-65-1P 33386-66-2P  
 33482-67-6P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 RN 33386-64-0 CAPLUS  
 CN  $\beta$ -Alanine, 2-[2-bromo-4,5-dimethoxyphenyl]-3-[2-bromo-4,5-(methylenedioxy)phenyl]-N-formyl-, methyl ester, erythro-(2)- (8CI) (CA INDEX NAME)

Relative stereochemistry.

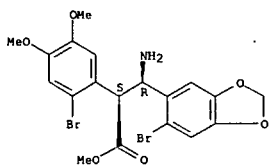


RN 33386-65-1 CAPLUS  
 CN  $\beta$ -Alanine, 2-[2-bromo-4,5-dimethoxyphenyl]-3-[2-bromo-4,5-(methylenedioxy)phenyl]-, methyl ester, erythro-(2)- (8CI) (CA INDEX NAME)

Relative stereochemistry.

## CAS ONLINE PRINTOUT

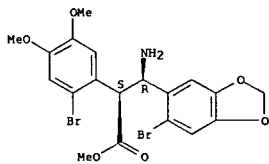
L4 ANSWER 129 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 33386-66-2 CAPLUS

CN  $\beta$ -Alanine, 2-(2-bromo-4,5-dimethoxyphenyl)-3-(2-bromo-4,5-(methylenedioxy)phenyl)-, methyl ester, hydrochloride, erythro-( $\pm$ )-(8CI) (CA INDEX NAME)

Relative stereochemistry.



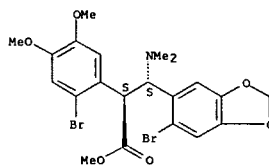
● HCl

RN 33482-67-6 CAPLUS

CN  $\beta$ -Alanine, 2-(2-bromo-4,5-dimethoxyphenyl)-3-(2-bromo-4,5-(methylenedioxy)phenyl)-N,N-dimethyl-, methyl ester, erythro-( $\pm$ )-(8CI) (CA INDEX NAME)

Relative stereochemistry.

L4 ANSWER 129 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



L4 ANSWER 130 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1971:88362 CAPLUS

DN 74:88362

OREF 74:14349a,14352a

TI • 1,2-Diphenyl-1,2-dicyano-1,2-bis[alkyl (or aryl or amino)peroxy (or oxy) carbonyl]ethanes as polymerization initiators

IN De Jongh, Hendrik A.; De Jonge, Cornelis R. H. I.

PA AKZO N. V.

SO Ger. Offen., 18 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2033910	A	19710121	DE 1970-2033910	19700708
	DE 2033910	B2	19810219		
	DE 2033910	C3	19811217		
	NL 6910428	A	19710112	NL 1969-10428	19690708
	NL 161425	C	19800215		
	NL 161425	B	19790917		
	US 3726837	A	19730410	US 1970-52073	19700702
	GB 1270784	A	19720412	GB 1970-1270784	19700707
	BE 753154	A	19701216	BE 1970-753154	19700708
	FR 2054344	A5	19710416	FR 1970-25339	19700708
	AT 300346	B	19720725	AT 1970-6212	19700708
	JP 49045151	B	19741202	JP 1970-59171	19700708
	SE 371811	B	19741202	SE 1970-9465	19700708
	PRAI NL 1969-10428	A	19690708		

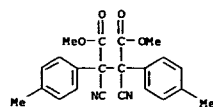
AB The reaction-specific, fairly heat-stable compds. of the formula NC(p-R C6H4)[R1(O)NOC]CC[CO(O)NR1](C6H4R-p)CN (I), where R = H, Me, Cl, NO<sub>2</sub>, or OMe; R1 = Me, Et, Ph, NH<sub>2</sub>, NMe<sub>2</sub>, or pipe ridino, n = 0-1, oxidation resistant, of relatively high activity at lower temps., inactive at room temperature, and which do not form gaseous products during radical formation are

useful as radical initiators for polymerization, e.g., of styrene (II), AcOCH=CH<sub>2</sub>, CH<sub>2</sub>=CHCN, or CH<sub>2</sub>=CMeCO<sub>2</sub>Me, or the hardening, e.g., of the unsatd. polyester resin Lupodal P-6. I are prepared by treating the corresponding NC(p-RC6H4)CH[CO(O)NR1] with O in the presence of CuCl and Me<sub>2</sub>NCH<sub>2</sub>CH<sub>2</sub>NMe<sub>2</sub>.

IT 31249-03-3 31249-04-4 31249-05-5  
RL: CAT (Catalyst use); USES (Uses)  
(catalysts, for polymerization of vinyl compds.)

RN 31249-03-3 CAPLUS

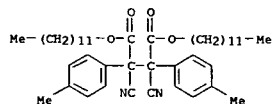
CN Butanedioic acid, 2,3-dicyano-2,3-bis(4-methylphenyl)-, dimethyl ester (9CI) (CA INDEX NAME)



RN 31249-04-4 CAPLUS

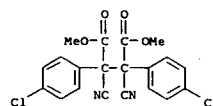
CN Succinic acid, 2,3-dicyano-2,3-di-p-tolyl-, didodecyl ester (8CI) (CA INDEX NAME)

L4 ANSWER 130 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 31249-05-5 CAPLUS

CN Succinic acid, 2,3-bis(p-chlorophenyl)-2,3-dicyano-, dimethyl ester (8CI) (CA INDEX NAME)



## CAS ONLINE PRINTOUT

L4 ANSWER 131 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1969-491021 CAPLUS

DN 71:91021

OREF 71:16914h,16915a

TI Non-volatile  $\alpha$ -branched chain fatty acid derivatives. IV. Addition of aryl esters to long chain olefins

AU Bilyk, A.; Eisner, A.; Maerker, G.

CS Eastern Util. Res. and Develop. Div., Agr. Res. Serv., Philadelphia, PA, USA

SO Journal of the American Oil Chemists' Society (1969), 46(9), 469-72

CODEN: JAOCA7; ISSN: 0003-021X

DT Journal

LA English

AB The di-tert-butyl peroxide initiated free radical addition of Me phenylacetate (I), Me p-tolylacetate, and Me p-methoxyphenylacetate to 1-decene gives two types of products. In addition to the expected  $\alpha$ -branched esters, dehydromer (both meso and dl) esters were also obtained. The highest yield of  $\alpha$ -branched ester was obtained from I. Higher yields of the dehydromer esters were obtained from the substituted phenyl esters. Attempts to add Me p-nitrophenylacetate to 1-decene were not successful and no evidence for the formation of a dehydromer product was observed.

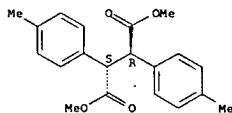
IT 25169-83-9P 25169-84-0P

RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)

RN 25169-83-9 CAPLUS

CN Butanedioic acid, 2,3-bis(4-methylphenyl)-, dimethyl ester, (R\*,S\*)- (9CI) (CA INDEX NAME)

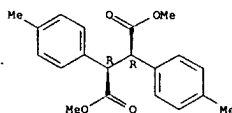
Relative stereochemistry.



RN 25169-84-0 CAPLUS

CN Butanedioic acid, 2,3-bis(4-methylphenyl)-, dimethyl ester, (R\*,R\*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



L4 ANSWER 132 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1967:481889 CAPLUS

DN 67:81889

OREF 67:15415a,15418a

TI Reaction of potassium cyanide with p-phenylsulfonylbenzyl bromide

AU Lotspeich, F. J.

CS West Virginia Univ. Med. Center, Morgantown, WV, USA

SO Journal of Organic Chemistry (1967), 32(4), 1274-7

CODEN: JOCEAH; ISSN: 0022-3263

DT Journal

LA English

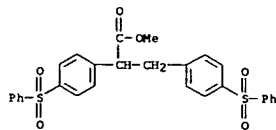
AB p-Phenylsulfonylbenzyl bromide (I) is treated with KCN to give  $\alpha,\alpha$ -bis(p-phenylsulfonylbenzyl)-p-phenylsulfonylbenzyl cyanide. I treated with NaI in Me<sub>2</sub>CO gives p-PhSO<sub>2</sub>C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>I. Also prepared, from p-PhSO<sub>2</sub>C<sub>6</sub>H<sub>4</sub>COCl and CH<sub>2</sub>N<sub>2</sub>, is p-PhSO<sub>2</sub>C<sub>6</sub>H<sub>4</sub>COCH<sub>2</sub>N<sub>2</sub> which is treated with Ag<sub>2</sub>O to give p-PhSO<sub>2</sub>C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>CO<sub>2</sub>H.

IT 7705-67-1P

RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)

RN 7705-67-1 CAPLUS

CN Propionic acid, 2,3-bis[p-(phenylsulfonyl)phenyl]-, methyl ester (8CI) (CA INDEX NAME)



L4 ANSWER 131 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

(Continued)

L4 ANSWER 133 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1967:70525 CAPLUS

DN 66:70525

OREF 66:13263a,13266a

TI Infrared and ultraviolet spectra of organomercury compounds. II.

Ultraviolet spectra of ethyl  $\alpha$ -bromomercuriarylacates

AU Artamkina, G. A.; Beletskaya, I. P.; Pentin, Yu. A.; Reutov, O. A.

CS State Univ., Moscow, USSR

SO Zhurnal Organicheskoi Khimii (1966), 2(8), 1329-34

CODEN: ZORXAE; ISSN: 0514-7492

DT Journal

LA Russian

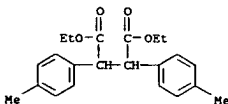
AB cf CA 63, 13024f. Uv spectra were reported for XC<sub>6</sub>H<sub>4</sub>CH(HgBr)CO<sub>2</sub>Et where X = H, Me, I, NO<sub>2</sub>, Et, iso-Pr, tert-Bu, F, Cl, and Br in the para position, Me or Br in the ortho position, and Br or Me in the meta position. These esters had 2 characteristic bands at 208-217 and 252-260 m $\mu$ . A comparison with XC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>CO<sub>2</sub>Et and XC<sub>6</sub>H<sub>4</sub>CHBrCO<sub>2</sub>Et was made; the substituents on the CH<sub>2</sub> bridge affect the spectra more significantly than do the ring substituents.

IT 15098-17-6

RL: PRP (Properties) (spectrum (uv) of)

RN 15098-17-6 CAPLUS

CN Succinic acid, 2,3-di-p-tolyl-, diethyl ester (7CI, 8CI) (CA INDEX NAME)



## CAS ONLINE PRINTOUT

L4 ANSWER 134 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
AN 1966:429366 CAPLUS

DN 65:29366

OREF 65:5434e-f

TI Flavanoids. II. Stereochemistry of isoaurones

AU Marathe, K. G.; Byrne, M. J.; Vidwans, R. N.

CS Univ. Poona, India

SO Tetrahedron (1966), 22(6), 1789-95

CODEN: TETRAE; ISSN: 0040-4020

DT Journal

LA English

AB cf. CA 54, 3402a. Isoaurones (anhydrolactones of 2-hydroxy- $\alpha$ -benzylmandelic acids), trimethylanhydrohazetyl lactone and its 5-methyl-4'-methoxy analog are shown to be trans-stilbene derivs. and are isomerized to the cis compds. by pyridine. The stereochemistry has been established by a stereoselective synthesis of the derived cis-stilbene- $\alpha$ -carboxylic acid and confirmed by uv and N.M.R. studies. A mechanism for isomerization has been suggested.

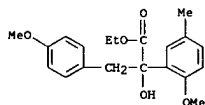
IT 6581-70-0 6600-69-7

(Derived from data in the 7th Collective Formula Index (1962-1966))

RN 6581-70-0 CAPLUS

CN Mandelic acid, 2-methoxy- $\alpha$ -(p-methoxybenzyl)-5-methyl-, ethyl ester

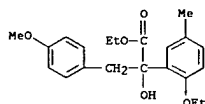
(7CI, 8CI) (CA INDEX NAME)



RN 6600-69-7 CAPLUS

CN Mandelic acid, 2-ethoxy- $\alpha$ -(p-methoxybenzyl)-5-methyl-, ethyl ester

(7CI, 8CI) (CA INDEX NAME)



IT 6581-74-4P, Lactic acid, 3-(p-methoxyphenyl)-2-(6-methoxy-m-tolyl)-

, methyl ester

RL: PREP (Preparation)

(preparation of)

RN 6581-74-4 CAPLUS

CN Mandelic acid, 2-methoxy- $\alpha$ -(p-methoxybenzyl)-5-methyl-, methyl ester

(8CI) (CA INDEX NAME)

L4 ANSWER 135 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1966:429365 CAPLUS

DN 65:29365

OREF 65:5434a-e

TI Heraclenin from Hippomarathrum microcarpum

AU Kerimov, S. Sh.

CS V. L. Komarov Botan. Inst., Leningrad

SO Zhurnal Prikladnoi Khimii (Sankt-Peterburg, Russian Federation) (1966),

39(3), 660-4

CODEN: ZPKHAB; ISSN: 0044-4618

DT Journal

LA Russian

GI For diagram(s), see printed CA Issue.

AB Heraclenin (I), m. 107-8°,  $[\alpha]_D^{25} 25.5^\circ$  (c 2.51, pyridine), was extracted from H. microcarpum (II). II was extracted with

CHCl<sub>3</sub> to give 200 g. extract, which was dissolved in a min. quantity of CHCl<sub>3</sub> and chromatographed on a column containing neutral Al<sub>2</sub>O<sub>3</sub>. The substances were eluted from the column with petroleum ether, b. 40-60°, with a petroleum ether-CHCl<sub>3</sub> (4:1) mixture, or with CHCl<sub>3</sub> and with MeOH. Elution with a petroleum ether-CHCl<sub>3</sub> mixture gave 2 substances. After evaporation of the

eluate, the residue was dissolved in 4:1 EtOH-CHCl<sub>3</sub> to give hydroxypercedanin. The mother liquor gave crystals which were recrystd. from 4:1 alc.-petroleum ether to give I, m. 107-8°,  $[\alpha]_D^{25} 25.5^\circ$  (c 2.51, pyridine), Rf 0.31. I (2 g.) added to a hot solution of 0.3 g. (CO<sub>2</sub>H)<sub>2</sub> in 20 ml. H<sub>2</sub>O, the mixture refluxed 45 min., cooled,

diluted with water, and extracted with CHCl<sub>3</sub>, the extract evaporated, the residue chromatographed on an inactive Al<sub>2</sub>O<sub>3</sub> column, and eluted with CHCl<sub>3</sub> and EtOH, and the EtOH eluate evaporated to give I hydrate, m. 114-15°, v 3400 cm.<sup>-1</sup>,  $\lambda_{max}$  220, 250, 362, 300 m $\mu$ . I (0.5 g.) was added to 225 ml. 10% H<sub>2</sub>SO<sub>4</sub>, and the mixture boiled 15 min., filtered hot, and cooled to give isoheraclenin, m. 132.5-4.5° (EtOH),  $\lambda_{maximum}$  220, 250, 262, 300 m $\mu$ , Rf 0.25. I (0.2 g.) was dissolved in 10 ml. AcOH, 5 drops concentrated H<sub>2</sub>SO<sub>4</sub> added, the mixture heated on a water bath

1 hr., left overnight, and diluted with ice water, a yellow product separated, chromatographed on inactive Al<sub>2</sub>O<sub>3</sub>, and eluted with 20:1 Me<sub>2</sub>COAcOH, the eluate evaporated and the residue crystallized to give xanthotoxin (III), m. 240-1° (EtOH),  $\lambda_{maximum}$  224, 250, 268, 308 m $\mu$ , Rf 0.73. III (0.2 g.) was dissolved in 6 ml. MeOH, 0.1N KOH added to weak alkaline reaction, 0.3 g. MeI gradually added, the mixture boiled 1.5 hrs., MeOH distilled, and the residue crystallized to give xanthotoxin, m. 145-6°, Rf 0.21. The ir spectrum of I was compared with that of parnigenin. I is 1 of the enantiomers of the racemic compound, parnigenin.

IT 6581-70-0 6600-69-7

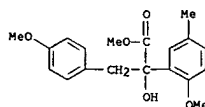
(Derived from data in the 7th Collective Formula Index (1962-1966))

RN 6581-70-0 CAPLUS

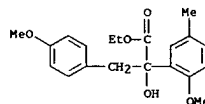
CN Mandelic acid, 2-methoxy- $\alpha$ -(p-methoxybenzyl)-5-methyl-, ethyl ester

(7CI, 8CI) (CA INDEX NAME)

L4 ANSWER 134 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



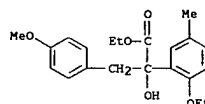
L4 ANSWER 135 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



RN 6600-69-7 CAPLUS

CN Mandelic acid, 2-ethoxy- $\alpha$ -(p-methoxybenzyl)-5-methyl-, ethyl ester

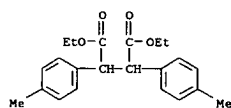
(7CI, 8CI) (CA INDEX NAME)



## CAS ONLINE PRINTOUT

L4 ANSWER 136 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1964:61005 CAPLUS  
 DN 60:61005  
 OREF 60:10707a-d  
 TI Synthesis of some organomercury salts of the type  $\text{XC}_6\text{H}_4\text{CH}(\text{HgBr})\text{CO}_2\text{Et}$   
 AU Beletskaya, I. P.; Artamkina, G. A.; Shevlyagina, E. A.; Reutov, O. A.  
 SO Zhurnal Obshchei Khimii (1964), 34(1), 321-4  
 CODEN: ZOKH44; ISSN: 0044-460X  
 DT Journal  
 LA Unavailable  
 AB cf. CA 57, 16645e. o-BrC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>CN refluxed in EtOH-concentrated H<sub>2</sub>SO<sub>4</sub> 5 h.  
 gave

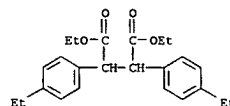
77% o-BrC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>CO<sub>2</sub>Et (I), b<sub>7</sub> 128°, m. 34.5°. Similarly was prepared the m-isomer, 75%, b<sub>2</sub> 120-1°, n<sub>D</sub> 1.5348, d<sub>20</sub> 1.3810. p-EtC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>CO<sub>2</sub>Et, b<sub>4</sub> 110°, 1.4970, 1.013, was prepared in 82% yield from the acid and EtOH. I in CCl<sub>4</sub> was brominated under an incandescent lamp and gave XCGH<sub>4</sub>CHBrCO<sub>2</sub>Et (II) (X = o-Br), 50%, b<sub>1</sub> 107°, 1.5781, 1.7266. Similarly was prepared the m-isomer, 60%, b<sub>3</sub> 148-9°, 1.5712, 1.7010, and II (X = p-O<sub>2</sub>N), 55%, b<sub>4</sub> 165°, 1.5580, -. Et p-ethylmandelate and PBr<sub>3</sub> in CHCl<sub>3</sub> at first with cooling, then 0.5 h. on a steam bath, gave 73% p-EtC<sub>6</sub>H<sub>4</sub>CHBrCO<sub>2</sub>Et, b<sub>4</sub> 125°, 1.5350, 1.3227. Similarly were prepared 60% p-iso-Pr analog, b<sub>6</sub> 142°, 1.5260, 1.2800, and p-methoxy analog, 65%, b<sub>3</sub> 150°, 1.5500, 1.4050. Shaking II with Hg gave 51% p-MeC<sub>6</sub>H<sub>4</sub>CH(HgBr)CO<sub>2</sub>Et (III), m. 70°, 50% o-bromo analog, m. 91°, 40% m-bromo analog, m. 69°, 70% p-Et analog, m. 74°, 68% p-nitro analog, m. 135°, and 89% p-iso-Pr analog, m. 95°. In case the product precipitated as an oil, indicating the formation of R<sub>2</sub>Hg, the mixture was treated with HgBr<sub>2</sub> to effect conversion to R<sub>2</sub>HgBr. If the preparation of III was run at 50-60°, the product was 60% (p-MeC<sub>6</sub>H<sub>4</sub>CHCO<sub>2</sub>Et)<sub>2</sub>, m. 151°. Similarly was obtained the p-ethylphenyl analog, 15%, m. 125°. The reaction of the p-anisyl member with Hg gave only a tar that was free of Hg. A previously reported substance (loc. cit.) m. 145°, was shown to be BrHgCH<sub>2</sub>C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>CO<sub>2</sub>Et, rather than III.  
 IT 15098-17-6P, Succinic acid, 2,3-di-p-tolyl-, diethyl ester  
 95699-75-5P, Succinic acid, 2,3-bis(p-ethylphenyl)-, diethyl ester  
 RI: PREP (Preparation)  
 (preparation of)  
 RN 15098-17-6 CAPLUS  
 CN Succinic acid, 2,3-di-p-tolyl-, diethyl ester (7CI, 8CI) (CA INDEX NAME)



RN 95699-75-5 CAPLUS  
 CN Succinic acid, 2,3-bis(p-ethylphenyl)-, diethyl ester (7CI) (CA INDEX NAME)

L4 ANSWER 137 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1963:66251 CAPLUS  
 DN 58:66251  
 OREF 58:11265g-h, 11266a-h, 11267a-f  
 TI Reaction of diazomethane with double bonds. I. Direct methylation of trisubstituted ethylenes  
 AU Alguero, M.; Bosch, J.; Castaner, J.; Castella, J.; Castells, J.; Mestres, R.; Pascual, J.; Serratos, F.  
 CS Univ. Barcelona, Spain  
 SO Tetrahedron (1962), 18, 1381-94  
 CODEN: TETRA8; ISSN: 0040-4020  
 DT Journal  
 LA Unavailable  
 AB For diagram(s), see printed CA Issue.  
 GI cf. CA 57, 12455d. Treatment of  $\gamma$ -benzylidene- $\alpha$ -carboxybutenolide (I, R = CO<sub>2</sub>H, R' = H) (4.0 g.) in 15 ml. Et<sub>2</sub>O at 20° with 2.2-2.4 moles CH<sub>2</sub>N<sub>2</sub> in Et<sub>2</sub>O and the product recrystd. from Et<sub>2</sub>O (or EtOAc) gave 3.8 g.  $\gamma$ -benzylidene- $\alpha$ -carboxymethoxy-methylbutenolide (II, R = CO<sub>2</sub>Me, R' = H) (III), m. 156-8°,  $\mu$ , 1786, 1726 cm.<sup>-1</sup> (CCl<sub>4</sub>).  $\lambda$  202, 227 m $\mu$  ( $\epsilon$  14,500, 7180), also produced (0.3 g.) by treatment of I (R = CO<sub>2</sub>Me, R' = H) (0.3 g.) in Et<sub>2</sub>O with 1.2-1.4 moles CH<sub>2</sub>N<sub>2</sub> in Et<sub>2</sub>O. Similarly were prepared II (R, R' and m.p. given): CN, H, 187-90°; CO<sub>2</sub>Me, Me, m. 154-7°; CO<sub>2</sub>Me, Cl, 175.0-7.5°; CO<sub>2</sub>Me, NO<sub>2</sub>, 166-72° (decomposition). I (R = R' = H) (0.2 g.) treated with excess CH<sub>2</sub>N<sub>2</sub> in Et<sub>2</sub>O gave unchanged starting material. III (7.23 g.) heated 10 hrs. (N atmospheric) in 200 ml. dioxane and 80 ml. concentrated HCl and the washed (alc., H<sub>2</sub>O) precipitate recrystd. from dioxane gave 5.22 g. II (R = CO<sub>2</sub>H, R' = H) (IV), m. 190-2° (decomposition),  $\nu$  1757, 1724 cm.<sup>-1</sup> (CHCl<sub>3</sub>),  $\lambda$  202, 231, 344 m $\mu$  ( $\epsilon$  11,300, 7800, 26,400). IV (196 mg.) and 0.2 ml. concentrated HCl refluxed 13 hrs. in 12 ml. MeOH and treated with EtOAc, the filtered solution washed with 2N aqueous K<sub>2</sub>CO<sub>3</sub> and H<sub>2</sub>O, percolated through an Al<sub>2</sub>O<sub>3</sub> column and the eluate evaporated gave III, also obtained by methylation of IV with ethereal CH<sub>2</sub>N<sub>2</sub>. The acids II (R = CO<sub>2</sub>H, R' = Me, Cl), m. 202-10° (decomposition),  $\lambda$  204, 233, 351 m $\mu$  ( $\epsilon$  16,700, 10,130, 37,900), and m. 208-18° (decomposition),  $\lambda$  202, 234, 342-3 m $\mu$  ( $\epsilon$  12,330, 12,500, 32,700), were similarly prepared IV (2.0 g.) heated in vacuo at 250° and the product distilled at 210°/18 mm. gave 0.8 g. solid, recrystd. from Et<sub>2</sub>O to give II (R = R' = H) (V), m. 101-3°,  $\nu$  1786, 1387 cm.<sup>-1</sup> (CCl<sub>4</sub>),  $\lambda$  226, 240, 324 m $\mu$  ( $\epsilon$  9150, 7960, 20,490). V (1.0 g.) in 20 ml. 40% HI and 20 ml. AcOH heated 6 hrs. at 160° in a sealed tube and the cooled mixture diluted with H<sub>2</sub>O, treated with a few drops of aqueous NaHSO<sub>3</sub> and extracted repeatedly with Et<sub>2</sub>O, the Et<sub>2</sub>O shaken with aqueous Na<sub>2</sub>CO<sub>3</sub> and the alkaline solution acidified with 2N HCl, the acid solution extracted with Et<sub>2</sub>O and the residue on evaporation recrystd. from petr. ether gave 0.96 g. PhCH<sub>2</sub>COCHMeCH<sub>2</sub>CO<sub>2</sub>H (VI), m. 62-3°; semicarbazone m. 171-3° (decomposition). VI Me ester (1.3 g.) and 0.28 g. NaH refluxed 6 hrs. in 20 ml. Et<sub>2</sub>O and the mixture diluted with 40 ml. Et<sub>2</sub>O, acidified, and the H<sub>2</sub>O-washed solution evaporated gave 0.6 g. 4-methyl-2-phenyl-cyclopentane-1,3-dione, m. 181-3°. PhCH<sub>2</sub>COCHMeCO<sub>2</sub>Et (10.0 g.) in 35 ml. C<sub>6</sub>H<sub>6</sub> treated with NaOEt (from 1.15 g. Na in 15 ml. alc.) and the C<sub>6</sub>H<sub>6</sub> distilled, the mixture refluxed 9 hrs. with 8.25 g. BrCH<sub>2</sub>CO<sub>2</sub>Et in 10 ml. C<sub>6</sub>H<sub>6</sub> and acidified with 2N H<sub>2</sub>SO<sub>4</sub>, the C<sub>6</sub>H<sub>6</sub> layer washed with 0.5M aqueous NaHCO<sub>3</sub> and H<sub>2</sub>O and distilled in a high vacuum gave

L4 ANSWER 136 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



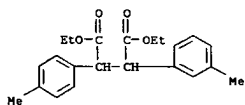
L4 ANSWER 137 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 g. oil, b<sub>0.1</sub> 131-2° n<sub>D</sub> 1.4960. This oily PhCH<sub>2</sub>COCHMe(CO<sub>2</sub>Et)<sub>2</sub>CHCO<sub>2</sub>Et (8.18 g.) shaken 24 hrs. with 8.18 ml. 10% KOH in dioxane, the mixt. washed with Et<sub>2</sub>O and acidified with 2N HCl, extd. with Et<sub>2</sub>O and the residue on evapn. recrystd. from 1:3 Et<sub>2</sub>O-petr. ether gave VI. VI (0.44 g.) and 2.9 g. KOH in 2.5 ml. 80% N<sub>2</sub>H<sub>4</sub>.H<sub>2</sub>O and 5 ml. (HOCH<sub>2</sub>CH<sub>2</sub>)<sub>2</sub>O refluxed 1 hr. and the mixt. slowly distd. to 175° inner temp., the residual mixt. refluxed 7 hrs. and dild. with H<sub>2</sub>O, washed with Et<sub>2</sub>O and the aq. soln. acidified with 6N HCl, extd. with Et<sub>2</sub>O and the H<sub>2</sub>O-washed and dried ext. evapd., the residue (0.34 g.) chromatographed in C<sub>6</sub>H<sub>6</sub> over silica gel and eluted with 20:1 C<sub>6</sub>H<sub>6</sub>:Et<sub>2</sub>O gave 0.34 g. oily PhCH<sub>2</sub>CH<sub>2</sub>CHMeCH<sub>2</sub>CO<sub>2</sub>H, b<sub>0.6</sub> 210°, anilide m. 109-111° p-toluide m. 107-8°. EtMgBr (from 2.43 g. Mg) in 80 ml. Et<sub>2</sub>O stirred (N atm.) with dropwise addn. of 11.2 g. PhC.tplbond.CH in 20 ml. dry C<sub>6</sub>H<sub>6</sub> and the mixt. refluxed 2 hrs., treated dropwise at 20° with 12.7 g. N-acetylpiperidine (VII) in 50 ml. dry C<sub>6</sub>H<sub>6</sub> and stirred 17 hrs., treated at 0° (ice bath) with 200 ml. 2N H<sub>2</sub>SO<sub>4</sub> and shaken 24 hrs., extd. 3 times with 100 ml. Et<sub>2</sub>O and the ext. washed with 0.6M aq. NaHCO<sub>3</sub> and H<sub>2</sub>O, evapd. and the residue distd. gave 1.96 g. VII, b<sub>0.8</sub> 67-70° and 1.20 g. PhC.tplbond.Cac (VII), b<sub>0.8</sub> 75-6°  $\mu$ , 2208, 1681 cm.<sup>-1</sup> (CCl<sub>4</sub>),  $\lambda$  212.216, 236.259, 270, 283 m $\mu$  ( $\epsilon$  12,520, 13,500, 7100, 13,250, 17,450, 13,550, C<sub>6</sub>H<sub>12</sub>). PhC.tplbond.CMgBr (from 12.0 g. PhC.tplbond.CH) at 0° in C<sub>6</sub>H<sub>6</sub>:Et<sub>2</sub>O stirred with dropwise addn. of 6.16 g. freshly distd. AcH in 40 ml. dry C<sub>6</sub>H<sub>6</sub> and the mixt. stirred 17 hrs. at 20° refluxed 30 min. and hydrolyzed with 100 ml. 2N H<sub>2</sub>SO<sub>4</sub>, the products extd. and the residue on removal of solvents distd. gave 2.37 g. PhC.tplbond.CH, b<sub>20</sub> 45° and 11.13 g. PhC.tplbond.CCMgOH, b<sub>20</sub> 140-1° n<sub>D</sub> 1.5634,  $\mu$  3333, 2237, 2208 cm.<sup>-1</sup> (neat). The alc. stirred at -15° in 33.5 ml. Et<sub>2</sub>O and treated dropwise below 25° with 7.67 g. Na<sub>2</sub>C<sub>2</sub>O<sub>7</sub>.2H<sub>2</sub>O and 5.76 ml. concd. H<sub>2</sub>SO<sub>4</sub> in H<sub>2</sub>O (total vol. 38.5 ml.) and the mixt. stirred 4 hrs. at 20°, the Et<sub>2</sub>O layer and the Et<sub>2</sub>O washings combined and washed with aq. NaHCO<sub>3</sub> and H<sub>2</sub>O, the dried ext. evapd. and the residue distd., the impure VII (7.78 g., b<sub>0.15</sub> 61-5°) shaken 17 hrs. with 16 g. 45% aq. NaHSO<sub>3</sub> and the ppt. washed with Et<sub>2</sub>O, the dried material (5.02 g.) hydrolyzed with 35 ml. saqd. aq. Na<sub>2</sub>CO<sub>3</sub> and the aq. soln. extd. with Et<sub>2</sub>O gave 2.48 g. VII, b<sub>0.01</sub> 44-5°. PhC.tplbond.CH (10.2 g.), 21.1 g. MeC(OT<sub>2</sub>)<sub>3</sub> and 1.0 g. freshly fused ZnCl<sub>2</sub> heated slowly (8 hrs.) to 180° with loss of 4.6 g. EtOH, the mixt. poured into H<sub>2</sub>O and extd. with Et<sub>2</sub>O, the residue on evapn. distd., and the fraction (9.21 g., b<sub>0.01</sub> 61-3°) sublimed at 75°/0.01 mm. gave 6.77 g. VII diethyl ketal, b<sub>0.01</sub> 60° shaken with 55 ml. 30% aq. tartaric acid 7 days at 20°, extd. with Et<sub>2</sub>O, and the ketone distd. to yield 3.75 g. pure VII, b<sub>0.01</sub> 43°. VII (1.0 g.) and 2.9 g. Ph<sub>3</sub>P:CHCO<sub>2</sub>Me refluxed 24 hrs. in 47 ml. C<sub>6</sub>H<sub>6</sub> and the C<sub>6</sub>H<sub>6</sub> evapd. in vacuo, the residue taken up in Et<sub>2</sub>O and the cryst. Ph<sub>3</sub>PO filtered off, the filtrate evapd. and the residue extd. with hot petr. ether, the soln. refrigerated and filtered from Ph<sub>3</sub>PO, the filtrate evapd. and the residue distd. gave 0.92 g. of a mixt. of geometrical isomers of PhC.tplbond.CCMe:CHCO<sub>2</sub>Me, b<sub>0.01</sub> 82-4°,  $\lambda$  220, 240, 251, 297 m $\mu$  ( $\epsilon$  15,900, 9150, 9750, 16,600),  $\nu$  2208, 1724, 1613 cm.<sup>-1</sup> (CCl<sub>4</sub>). The mixt. (2.0 g.) in 16 ml. dioxane shaken 2 hrs. in 24 ml. 0.5N NaOH and kept 16 hrs., washed 4 times with 15 ml. Et<sub>2</sub>O and acidified with 23 ml. 2N HCl, extd. with Et<sub>2</sub>O and the oily mixed acids (1.85 g.) taken up in 10 ml. MeOH, treated with 4 drops of 1% aq. AgNO<sub>3</sub> and kept 1.5 hrs. at 20° evapd. and the residue taken up in Et<sub>2</sub>O, washed with 0.5M aq. NaHCO<sub>3</sub> and the dried Et<sub>2</sub>O soln. evapd. gave 0.82 g. yellow cryst. V. The alk. washings acidified and extd. with Et<sub>2</sub>O, the solid (0.75 g., m. 67-129°) chromatographed in C<sub>6</sub>H<sub>6</sub> over silica gel and eluted with C<sub>6</sub>H<sub>6</sub>:Et<sub>2</sub>O gave 0.27 g. trans-PhC.tplbond.CCMe:CHCO<sub>2</sub>H, m. 131-3°,  $\lambda$  202, 220, 291-2 m $\mu$  ( $\epsilon$  20,100, 13,200, 22,200),  $\mu$  2215, 1689 cm.<sup>-1</sup>

## CAS ONLINE PRINTOUT

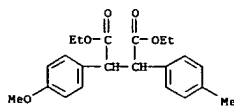
L4 ANSWER 137 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 (C2C14), 0.36 g. V, and 0.10 g. mixt. An attempted synthesis of 1-methyl-3-phenylpropargylenemalononic acid (for further cyclization to  $\alpha$ -carboxy- $\beta$ -methylbutenolide) by condensation of VII and H2C(CO2H)2 gave a neg. result. VII (0.38 g.), 0.67 g. NCH2CO2H, and 2 ml. AcOH heated (N atm.) 82 hrs. at 100° and dild. with 3 ml. H2O and 3 ml. petr. ether, filtered, and the washed residue recrystd. from C6H6 gave 0.15 g. II (R = CN, R' = H), hydrolyzed (0.10 g.) by heating 3 hrs. at 100° in 2.5 ml. AcOH and 3 ml. 60% H2SO4 to IV. The  $\beta$ -methylbutenolide structure of the compds. I and II was also established by a study of their hydrogenated derivs. (VIII). IV (200 mg.) in 33 ml. abs. alc. and 2 ml. H2O contg. 75 mg. KOH hydrogenated at 14°/752 mm. with 33 mg. PtO2 and adsorption of 2.08 moles H, the mixt. treated with 0.27 ml. 2N HCl and the filtered soln. evapd. in vacuo, the residue taken up in 30 ml. H2O, acidified with 2N HCl, extd. with 1:10 CHCl3-H2O, and the oily product rubbed with Et2O gave 90 mg. VIII (R = CO2H) (IX), m. 123-7°, v. 1783, 1721 cm.<sup>-1</sup> (CH-Cl13). The Et2O soln. extd. with aq. NaHCO3 and the alk. ext. acidified, extd. with Et2O, and the sirupy product chromatographed over silica gel yielded 40% stereoisomeric mixt. of acids. III (2.0 g.) in 75 ml. alc. hydrogenated over 0.1 g. PtO2 and the filtered soln. evapd. gave a colorless, fluid resin VIII (R = CO2H), b.p. 0.1 140°, refluxed (2.0 g.) with 2.0 g. KOH in 20 ml. alc. 1 hr. and the cooled mixt. filtered, the K salt taken up in H2O and acidified with 22N HCl to yield 0.9 g. IX. IX (2.0 g.) heated 30 min. at 140° in vacuo and the residue distd. gave 0.8 g. VIII (R = H) (X), b.p. 75 130°, v. 1779 cm.<sup>-1</sup> V (1.0 g.) in 50 ml. alc. hydrogenated over 60 mg. PtO2 and the filtered soln. evapd. gave a colorless oil, b.p. 75 130°, possibly isomeric with X or a mixt. X (2.0 g.), 40 ml. 40% HI, and 40 ml. AcOH heated 6 hrs. at 160° in a sealed tube and the cooled product dild. with H2O, treated with aq. NaHSO3 and dild. with Et2O, the dried Et2O evapd., and the oily product distd. yielded PhCH2CH2-CHMeCH2CO2H, b.p. 6 210°, anilid. m. 109-11°, p-toluide m. 107-8°. X (1.90 g.) in 20 ml. Et2O and an excess of a Grignard reagent (prepd. by addn. of p-MeC6H4NH2 to EtMgBr in Et2O) refluxed 30 min., dild. with 70 ml. Et2O and the cooled soln. washed with 2N HCl and with H2O, the dried Et2O evapd. and the residue crystd. from Et2O gave 1.30 g. p-MeC6H4NHCO-CH2CHMeCH(OH)CH2Ph, m. 157-9°. Prepn. of PhCH2CO(CH2)3CO2H (XI), m. 59-61° (semicarbazone m. 172-3°) and its Wolff-Kishner redn. gave Ph(CH2)5CO2H, b.p. 6 132°, infrared spectrum similar to but differing from that of PhCH2CH2CHMeCH2CO2H. XI (0.50 g.) in 10 ml. abs. alc. hydrogenated with PhCH2CH2CHMeCH2CO2H. XI (0.50 g.) taken up in Et2O and 0.025 g. pre-reduced PtO2, the oily product (0.50 g.) taken up in Et2O and refluxed 30 min. with a Grignard reagent (prepd. by addn. of p-MeC6H4NH2 to EtMgBr from 0.10 g. Mg in 25 ml. Et2O), the mixt. dild. with Et2O and washed with 2N HCl and H2O, dried and evapd. gave PhCH2CH(OH)(CH2)3CONHC6H4Me-p, m. 129-30°. Further examples of the methylation reaction were studied and comments made on the recorded ultraviolet and infrared spectra. The reaction mechanism was discussed.

IT 15098-17-6P, Succinic acid, 2,3-di-p-tolyl-, diethyl ester, stereoisomers 97116-28-4P, Succinic acid, 2,3-di-o-tolyl-, diethyl ester 97116-29-5P, Succinic acid, 2-o-tolyl-3-p-tolyl-, diethyl ester 98333-21-2P, Succinic acid, 2,3-di-m-tolyl-, diethyl ester 98333-22-3P, Succinic acid, 2-m-tolyl-3-p-tolyl-, diethyl ester 98333-28-9P, Succinic acid, 2-(p-methoxyphenyl)-3-p-tolyl-, diethyl ester  
 RL: PREP (Preparation)  
 (preparation of)

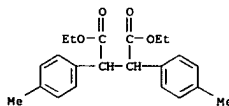
L4 ANSWER 137 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 RN 98333-22-3 CAPLUS  
 CN Succinic acid, 2-m-tolyl-3-p-tolyl-, diethyl ester (7CI) (CA INDEX NAME)



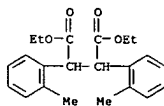
RN 98333-28-9 CAPLUS  
 CN Succinic acid, 2-(p-methoxyphenyl)-3-p-tolyl-, diethyl ester (7CI) (CA INDEX NAME)



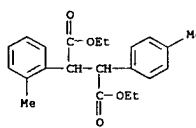
L4 ANSWER 137 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 RN 15098-17-6 CAPLUS  
 CN Succinic acid, 2,3-di-p-tolyl-, diethyl ester (7CI, 8CI) (CA INDEX NAME)



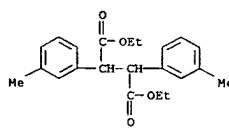
RN 97116-28-4 CAPLUS  
 CN Succinic acid, 2,3-di-o-tolyl-, diethyl ester (6CI, 7CI) (CA INDEX NAME)



RN 97116-29-5 CAPLUS  
 CN Succinic acid, 2-o-tolyl-3-p-tolyl-, diethyl ester (7CI) (CA INDEX NAME)

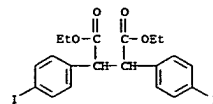


RN 98333-21-2 CAPLUS  
 CN Succinic acid, 2,3-di-m-tolyl-, diethyl ester (7CI) (CA INDEX NAME)



L4 ANSWER 138 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 RN 1962:483341 CAPLUS  
 DN 57:83341  
 OREF 57:16645e-h  
 TI Synthesis of some organomercury salts of type XC6H4CH(HgBr)CO2C2H5.II  
 AU Beletskaya, I. P.; Reutov, O. A.; Artamkina, G. A.  
 SO Zhurnal Obshchei Khimii (1962), 32, 241-4  
 CODEN: ZOXA4; ISSN: 0044-460X  
 DT Journal  
 LA Unavailable  
 AB cf. CA 55, 21014b. Adding 18 ml. Br to 55 g. p-FC6H4CH2CO2H and 2.8 g. red P in refluxing CHCl3, refluxing until HBr evolution ceased, and adding 23 ml. Br with heating gave after heating with 30 ml. EtOH followed by aqueous treatment, 43% p-FC6H4CH2CO2Et (I), b.p. 105-6°, n<sub>D</sub>20 1.4858, m. 29°, and 22% p-FC6H4CHBrCO2Et, b.p. 120-2°, n<sub>D</sub>20 1.5190, d<sub>20</sub> 1.4623. Similarly were prepared: p-BrC6H4CHBrCO2Et, 55%, b.p. 130-2°, 1.5579, 1.6600; p-IC6H4CHBrCO2Et, 10%, m. 52°; p-IC6H4CH2CO2Et, 25%, m. 29°. The residue from the last substances treated with Et2O gave EtO2CCH(C6H4I-p)CHBr(C6H4I-p)CO2Et (provisional structure), m. 130°, and less soluble in Et2O, (p-IC6H4CHCO2Et)2 m. 170-1°. Also were prepared: 55% o-MeC6H4CHBrCO2Et, b.p. 132-4°, 1.5397, 1.3721; 53% m-isomer, b.p. 130-2°, 1.5348, 1.3536; 76% p-Me3CC6H4CHBrCO2Et, b.p. 140-2°, 1.5300, 1.2660; 5% p-Me3CC6H4CH2CO2Et, b.p. 108-10°, 1.5030, 0.9800. Addition of Br to I in CCl4 under incandescent lamp illumination gave 85% p-FC6H4CHBrCO2Et (II), b.p. 105-6°, 1.5190, -. Similarly were prepared: p-Cl analog, 75%, b.p. 138-40°, 1.5503, -. p-Br analog, 76%, b.p. 130-3°, 1.5580, -. p-I analog, 44%, m. 52°. II shaken 4 hrs. with Hg gave 24% p-FC6H4CH(HgBr)CO2Et, m. 95°. Similarly were prepared: 49% p-Br analog, m. 120-20.5°; p-I analog, 57%, m. 122°; o-MeC6H4CH(HgBr)CO2Et, 75%, m. 94°; p-Me3CC6H4CH(HgBr)CO2Et, m. 110°; m-MeC6H4CH(HgBr)CO2Et, 5%, m. 98° (by-product Cl1H13O2BrHg, oil, 20%).

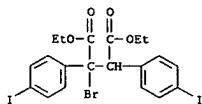
IT 94545-01-4P, Succinic acid, 2,3-bis(p-iodophenyl)-, diethyl ester  
 94550-49-9P, Succinic acid, 2-bromo-2,3-bis(p-iodophenyl)-(?), diethyl ester  
 RL: PREP (Preparation)  
 (preparation of)  
 RN 94545-01-4 CAPLUS  
 CN Succinic acid, 2,3-bis(p-iodophenyl)-, diethyl ester (7CI) (CA INDEX NAME)



RN 94550-49-9 CAPLUS  
 CN Succinic acid, 2-bromo-2,3-bis(p-iodophenyl)-, diethyl ester (7CI) (CA INDEX NAME)

## CAS ONLINE PRINTOUT

L4 ANSWER 138 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

L4 ANSWER 139 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
AN 1961:17917 CAPLUS

DN 55:17917

OREF 55:3579a-f

T1 The structure of ginkgetin. V. Flavone carboxylic acid

AU Kogure, Akira

CS Osaka City Univ.

SO Nippon Kagaku Zasshi (1959), 80, 1462-6

CODEN: NPKZAZ; ISSN: 0369-5387

DT Journal

LA Unavailable

AB A flavonecarboxylic acid, C<sub>25</sub>H<sub>20</sub>O<sub>9</sub> (I), was obtained from ginkgetin (Ia) by treating with KOH-H<sub>2</sub>O, which gave the Me ether Me ester (II) with CH<sub>2</sub>N<sub>2</sub> (cf. preceding abstract). II showed pos. FeCl<sub>3</sub> reaction, λ 2.71, 3.21, 5.8, 6.00 μ, suggesting the existence of still more hydroxy groups. II heated with Ac<sub>2</sub>O and AcONa gave the two acetates, C<sub>30</sub>H<sub>26</sub>O<sub>8</sub>, m. 139-141°, and C<sub>32</sub>H<sub>30</sub>O<sub>11</sub>, m. 196-8°. II gave the carboxylic acid Me ether (III), C<sub>27</sub>H<sub>24</sub>O<sub>9</sub>, pale yellow, insol. in NaHCO<sub>3</sub> solution III gave C<sub>27</sub>H<sub>22</sub>O<sub>8</sub>, m. 216-18°, yellow, supposedly a dehydrated III, by boiling with MeOH-HCl. I with alc. H<sub>2</sub>SO<sub>4</sub> gave the Me ester, C<sub>27</sub>H<sub>24</sub>O<sub>9</sub>, yellow, m. 188-190°, reconverted to I by hydrolysis and converted to the Me ether, m. 220-2°, by CH<sub>2</sub>N<sub>2</sub>, then further to III by hydrolysis. I gave the acetate, C<sub>33</sub>H<sub>28</sub>O<sub>13</sub>, m. 222-4°, by acetylation and the Me ether Me ester (IV), C<sub>30</sub>H<sub>30</sub>O<sub>9</sub>, m. 221-2°, different from II, with Me<sub>2</sub>SO<sub>4</sub>. IV had no carbonyl group other than one in the γ-pyrone ring, since IV did not form the oxime under mild conditions. IV was hydrolyzed to a flavonecarboxylic acid Me ether (V), C<sub>29</sub>H<sub>28</sub>O<sub>9</sub>, m. 298°, converted to the Et ester, C<sub>31</sub>H<sub>32</sub>O<sub>9</sub>, m. 208-210°, by treating with alc. HCl. In an attempt to decarboxylate by boiling with quinoline and Cu, IV was recovered unchanged or decomposed, indicating that the carboxy group in IV was not attached to the double bond. Heating V at 305° 7-8 min. gave the flavone lactone (VI), C<sub>27</sub>H<sub>22</sub>O<sub>8</sub>, m. 215-16°, by demethylation and dehydration, green with FeCl<sub>3</sub>. VI yielded the acetate, C<sub>29</sub>H<sub>24</sub>O<sub>9</sub>, m. 185-7°. Hydrolysis of VI with 5% alc. KOH gave a flavonecarboxylic acid (VII), C<sub>27</sub>H<sub>24</sub>O<sub>9</sub>, m. 298-300°. IV was prepared by methylation of VII with MeI or from VI with Me<sub>2</sub>SO<sub>4</sub>. These results showed that I was not easily decarboxylated but lactonized quickly. On ozonization, Ia di-Me ether gave a flavonecarboxylic acid Me ether (VIII), m. 297-8°. VIII kept at 305° 5-7 min. gave the lactonic flavone (IX), C<sub>26</sub>H<sub>20</sub>O<sub>8</sub>, m. 225-6°, reconverted to VIII by treating with KOH or acetylated to C<sub>30</sub>H<sub>30</sub>O<sub>10</sub>, m. 135°. Both VIII and IX yielded IV with Me<sub>2</sub>SO<sub>4</sub>. Ia with H<sub>2</sub>O<sub>2</sub> in alkaline solution gave I rather than oxoflavone

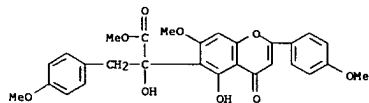
(part IV). Demethyl derivative of Ia, m. above 320°, gave demethyl derivative of I, which yielded IV with Me<sub>2</sub>SO<sub>4</sub>. The structure of Ia was supposed to be a flavone nuclearly fused with a hydroflavonol.

IT 114696-94-5 114791-94-5 115099-51-9

RN 114696-94-5 CAPLUS (Derived from data in the 6th Collective Formula Index (1957-1961))

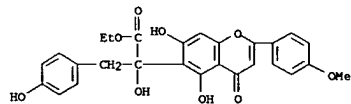
CN 4H-1-Benzopyran-6-acetic acid, α,5-dihydroxy-7-methoxy-α-p-methoxybenzyl-2-(p-methoxyphenyl)-4-oxo-, methyl ester (6C1) (CA INDEX NAME)

L4 ANSWER 139 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



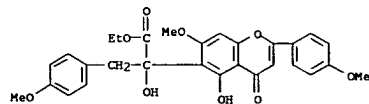
RN 114791-94-5 CAPLUS

CN 4H-1-Benzopyran-6-acetic acid, α,5,7-trihydroxy-α-p-methoxybenzyl-2-(p-methoxyphenyl)-4-oxo-, ethyl ester (6C1) (CA INDEX NAME)



RN 115099-51-9 CAPLUS

CN 4H-1-Benzopyran-6-acetic acid, α,5-dihydroxy-7-methoxy-α-p-methoxybenzyl-2-(p-methoxyphenyl)-4-oxo-, ethyl ester (6C1) (CA INDEX NAME)



L4 ANSWER 140 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1961:17916 CAPLUS

DN 55:17916

OREF 55:3578i,3579a-b

T1 The structure of ginkgetin. IV. Alkali cleavage of ginkgetin

AU Kogure, Akira

CS Osaka City Univ.

SO Nippon Kagaku Zasshi (1959), 80, 1355-8

CODEN: NPKZAZ; ISSN: 0369-5387

DT Journal

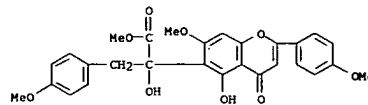
LA Unavailable

AB Ginkgetin (I) boiled 40 min. in 30% aqueous KOH solution gave p-methoxyacetophenone (II), anisic acid (III), flavonecarboxylic acid (IV), C<sub>25</sub>H<sub>20</sub>O<sub>9</sub>, m. 308-10°, and oxoflavone (V), m. 269° (decomposition). I boiled in 40% aqueous KOH solution many hrs. gave acetic acid, II, III, and phloroglucinol. IV, C<sub>25</sub>H<sub>20</sub>O<sub>9</sub>, brown with FeCl<sub>3</sub>, red with HCl-Mg, was converted to the Me ether Me ester, C<sub>28</sub>H<sub>26</sub>O<sub>9</sub>, m. 214-15°, brown with FeCl<sub>3</sub>. V gave the oxime, m. 275-6°, and the semicarbazone, m. 228-30°. V gave the mono-Me ether, C<sub>27</sub>H<sub>22</sub>O<sub>7</sub>, m. 220-2°, green with FeCl<sub>3</sub>, converted to the acetate, C<sub>29</sub>H<sub>24</sub>O<sub>9</sub>, m. 224-6.5°. IV and V exhibited ultraviolet absorption essentially identical with that of I.

IT 114696-94-5 114791-94-5 115099-51-9

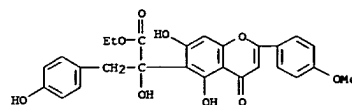
RN 114696-94-5 CAPLUS (Derived from data in the 6th Collective Formula Index (1957-1961))

CN 4H-1-Benzopyran-6-acetic acid, α,5-dihydroxy-7-methoxy-α-p-methoxybenzyl-2-(p-methoxyphenyl)-4-oxo-, methyl ester (6C1) (CA INDEX NAME)



RN 114791-94-5 CAPLUS

CN 4H-1-Benzopyran-6-acetic acid, α,5,7-trihydroxy-α-p-methoxybenzyl-2-(p-methoxyphenyl)-4-oxo-, ethyl ester (6C1) (CA INDEX NAME)

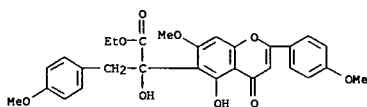


RN 115099-51-9 CAPLUS

CN 4H-1-Benzopyran-6-acetic acid, α,5-dihydroxy-7-methoxy-α-p-methoxybenzyl-2-(p-methoxyphenyl)-4-oxo-, ethyl ester (6C1) (CA INDEX NAME)

## CAS ONLINE PRINTOUT

L4 ANSWER 140 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



L4 ANSWER 141 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1960:56237 CAPLUS

DN 54:56237

OREF 54:10941d-1,10942a-d

TI Elimination of acetic acid during decarboxylation of organic acids. II.

Formation of  $\alpha,\alpha$ -diarylethenes from  $\beta,\beta'$ -diarylbutyric acids

AU Gogte, G. R.; Kasaralkar, D. Y.

CS Inst. Sci., Bombay

SO Journal of the University of Bombay, Science: Physical Sciences, Mathematics, Biological Sciences and Medicine (1958), 27(No. 3), 41-54

CODEN: JUBSAS; ISSN: 0368-4644

DT Journal

LA Unavailable

AB

cf. C.A. 54, 8717b. The preparation of variously substituted  $\beta,\beta$ -diarylbutyric acids and their behavior on distillation with lime was described. A mixture of 32 cc.  $\text{AcCH}_2\text{CO}_2\text{Et}$  (I) and 31 cc. *o*-cresol Me ether (II) cooled to 0-5°, 200 cc. 70%  $\text{H}_2\text{SO}_4$  added gradually with shaking, the mixture left 8 hrs. at room temperature, poured on crushed ice

and

the semisolid lump hydrolyzed by refluxing 2 hrs. with 160 cc. aqueous 30% NaOH and 100 cc. MeOH gave 16 g.  $\beta,\beta$ -bis(4-methoxy-3-methylphenyl)butyric acid (III), m. 127°; anilide m. 143°; Et ester, m. 65°. 2-Methoxy-4-methyl- $\beta$ -methylcinnamic acid (IV), m. 139° (EtOH), obtained by an alkaline hydrolysis of 4,7-dimethylcoumarin, similarly condensed with II and anisole, resp., gave  $\beta$ -(2-methoxy-4-methylphenyl)- $\beta$ -(4-methoxy-3-methylphenyl)butyric acid (V), m. 120-1° (anilide m. 139°; Et ester m. 62°), and  $\beta$ -(2-methoxy-4-methylphenyl)- $\beta$ -(4-methoxyphenyl)butyric acid (VI), m. 162° [anilide m. 136°; Et ester m. 60° (MeOH)]. Similarly, 20 g. 2-methoxy-5-methyl- $\beta$ -methylcinnamic acid (VII) (Auwers, C.A. 11, 2325) condensed with 24 cc. anisole gave 19 g.  $\beta$ -(2-methoxy-5-methylphenyl)- $\beta$ -(4-methoxyphenyl)butyric acid (VIII), m. 163°; anilide m. 153°; Et ester b.p. 270°. However, 10 g. VII condensed likewise with 6 cc. *p*-cresol gave 5 g. butyrolactone of  $\beta$ -(2-methoxy-5-methylphenyl)- $\beta$ -(2-hydroxy-5-methylphenyl)butyric acid, m. 146°, 25 g. of which refluxed 2 hrs. with 200 cc. 30% NaOH solution and subsequently methylated by adding 100 cc.  $\text{Me}_2\text{SO}_4$  at 50°, refluxing 2 hrs., leaving overnight, and working up gave 15 g.  $\beta,\beta$ -bis(2-methoxy-5-methylphenyl)butyric acid (IX), m. 130°; anilide m. 117°; Et ester m. 60°. The following butyrolactones and their corresponding butyric acids were similarly prepared (g. substituted cinnamic acid, amount phenol, g. substituted butyrolactone obtained, m.p., the corresponding butyric acid prepared, its m.p., m.p. of anilide, and m.p. of Et ester given): 30 g. IV, 33 cc. *p*-cresol, 22 g. butyrolactone of  $\beta$ -(2-methoxy-4-methylphenyl)- $\beta$ -(2-hydroxy-5-methylphenyl)butyric acid (X), 160°,  $\beta$ -(2-methoxy-4-methylphenyl)- $\beta$ -(2-methoxy-5-methylphenyl)butyric acid (XI) (10 g. from 25 g. X), 119°, 149°, 55° (petr. ether); 30 g. VII, 33 cc. *m*-cresol, 18 g. butyrolactone of  $\beta$ -(2-methoxy-5-methylphenyl)- $\beta$ -(2-hydroxy-4-methylphenyl)butyric acid, -, -, 155°, 149°, 55°; 10 g. IV, 11 cc. *m*-cresol, 7 g. butyrolactone of  $\beta$ -(2-methoxy-4-methylphenyl)- $\beta$ -(2-hydroxy-4-methylphenyl)butyric acid, 105°,  $\beta,\beta$ -bis(2-methoxy-4-methylphenyl)butyric acid (XII), 151°, 150°, 84°; 10 g. VII, 10 g. resorcinol, 5 g. hydroxybutyrolactone of  $\beta$ -(2-methoxy-5-methylphenyl)- $\beta$ -(2,4-

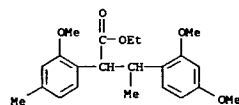
L4 ANSWER 141 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)

dihydroxyphenyl)butyric acid (XIII), 220-1°,  $\beta$ -(2-methoxy-5-methylphenyl)- $\beta$ -(2,4-dimethoxyphenyl)butyric acid (XIV) (8 g. from 15 g. of XIII), 116°, 165°, - (b.p. 240°); 10 g. IV, 10 g. resorcinol, 10 g. hydroxybutyrolactone of  $\beta$ -(2-methoxy-4-methylphenyl)- $\beta$ -(2,4-dimethoxyphenyl)butyric acid (XV), 190° (methoxy deriv., m. 183°),  $\beta$ -(2-methoxy-4-methylphenyl)- $\beta$ -(2,4-dimethoxyphenyl)butyric acid (XVI), 116-17°, 132°, - (b.p. 160°). Both,  $\beta,\beta$ -bis(*p*-methoxyphenyl)butyric acids, as well as  $\beta$ -(*p*-methoxyphenyl)- $\beta$ -(*o*-methoxyphenyl)butyric acids, on distn. with lime at 3 mm., lost a mol. of AcOH and gave  $\alpha,\alpha$ -bis(substituted-phenyl)ethylenes, but  $\beta,\beta$ -bis(*o*-methoxyphenyl)butyric acids, under the same conditions, were demethylated to butyrolactones and Me esters of the corresponding butyric acids. The following were the results of distn. with lime of the various butyric acid derivs. prepd. (butyric acid deriv., product obtained, m.p. given): III,  $\alpha,\alpha$ -bis(4-methoxy-3-methylphenyl)ethylene, 100° (MeOH); V,  $\alpha$ -(2-methoxy-4-methylphenyl)- $\alpha'$ -(4-methoxy-3-methylphenyl)ethylene, 104° (MeOH); VI,  $\alpha$ -(2-methoxy-4-methylphenyl)- $\alpha$ -(4-methoxyphenyl)ethylene, 142° (MeOH); VIII,  $\alpha$ -(2-methoxy-5-methylphenyl)- $\alpha$ -(4-methoxyphenyl)ethylene, 140° (MeOH). IX, XI, XII, XIV, and XVI gave the butyrolactones and Me esters of the corresponding butyric acids. IV and VII distd. with lime at 4 mm. gave 4,7- and 4,6-dimethylcoumarins, resp. All compds., unless stated otherwise, were crystd. from 70% alc.

IT 111162-58-4

(Derived from data in the 6th Collective Formula Index (1957-1961))

RN 111162-58-4 CAPLUS

CN Hydrocinnamic acid, 2,4-dimethoxy- $\alpha$ -(2-methoxy-*p*-tolyl)- $\beta$ -methyl-, ethyl ester (6C1) (CA INDEX NAME)

L4 ANSWER 142 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1960:11194 CAPLUS

DN 54:11194

OREF 54:2242c-1,2243a-d

TI Thyroxine analogs. I. Synthesis of 3,5-diiodo-4-(2-alkylphenoxy)-O-methylalanines

AU Zenker, Nicolas; Jorgensen, Eugene C.

CS Univ. of California, San Francisco

SO Journal of the American Chemical Society (1959), 81, 4643-7

CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA Unavailable

AB

A series of compds. of the type named in the heading was prepared for testing as analogs of thyroxine. 4,3,5-(*p*-MeC<sub>6</sub>H<sub>4</sub>SO<sub>3</sub>)(O<sub>2</sub>N)2C<sub>6</sub>H<sub>2</sub>CH<sub>2</sub>CH(NHAc)CO<sub>2</sub>Et (I) (29.7 g.), m. 159-60.5° (aqueous Me<sub>2</sub>CO), 16 cc. dry C<sub>5</sub>H<sub>5</sub>N, and 80 cc. dry CHCl<sub>3</sub> refluxed 0.5 hr., the mixture treated with 0.09-0.42 mole appropriate *o*-alkylphenol, refluxed 2-6 hrs., cooled, washed, dried, and evaporated, and the residue recrystd. or chromatographed on Al<sub>2</sub>O<sub>3</sub>

yielded

the corresponding 4,3,5-ArO(O<sub>2</sub>N)2C<sub>6</sub>H<sub>2</sub>CH<sub>2</sub>CH(NHAc)CO<sub>2</sub>Et (II) (Ar, moles phenol and I used, reflux time in hrs., % yield, and m.p. given): *o*-MeC<sub>6</sub>H<sub>4</sub>, 0.18, 0.06, 2.5, 58, 127-8°; 2,4-Me<sub>2</sub>C<sub>6</sub>H<sub>3</sub>, 0.09, 0.03, 2, 52, 120-2°; 2,5-Me<sub>2</sub>C<sub>6</sub>H<sub>3</sub>, 0.18, 0.06, 3.5, 51, 112-13°; 4,2,3-Cl<sub>3</sub>Me<sub>2</sub>C<sub>6</sub>H<sub>2</sub>, 0.11, 0.04, 7, 55, 139-40°; 4,2,5-Cl<sub>3</sub>Me<sub>2</sub>C<sub>6</sub>H<sub>2</sub>, 0.11, 0.04, 7, 53, 168-9°; *o*-iso-PrC<sub>6</sub>H<sub>4</sub>, 0.20, 0.03, 3.5, 46, 107-8°; 2,5-iso-PrMeC<sub>6</sub>H<sub>3</sub>, 0.42, 0.06, 6, 43, 142-4°; 2,4-Me(MeO)C<sub>6</sub>H<sub>3</sub>, 0.28, 0.10, 4, 63, 124-5°; 2,5,4-Me<sub>2</sub>(MeO)C<sub>6</sub>H<sub>2</sub>, 0.13, 0.05, 4, 51, 152-3°; 2,4-iso-Pr(MeO)C<sub>6</sub>H<sub>3</sub>, 0.15, 0.05, 8, 51, 105-6°; 2,5,4-iso-PrMe(MeO)C<sub>6</sub>H<sub>2</sub>, 0.14, 0.05, 8, 56, 160-2°. The appropriate II (4.9 mmoles) refluxed 2 hrs. with 23 cc. glacial AcOH and 23 cc. concentrated HCl, diluted with 100 cc. H<sub>2</sub>O, adjusted to pH 5.0

with 2N

NaOH, and filtered, and the residue repptd. from AcOH-HCl at pH 5.0, and recrystd. from aqueous C<sub>5</sub>H<sub>5</sub>N yielded the corresponding 4,3,5-ArO(O<sub>2</sub>N)2C<sub>6</sub>H<sub>2</sub>CH<sub>2</sub>CH(NH<sub>2</sub>)CO<sub>2</sub>H (Ar, % yield, and m.p. given): *o*-MeC<sub>6</sub>H<sub>4</sub>, 23, 192-3° (hygroscopic); 2,5-Me<sub>2</sub>C<sub>6</sub>H<sub>3</sub>, 13, 211-14°; *o*-iso-PrC<sub>6</sub>H<sub>4</sub>, 8, 187-90°; 2,5-iso-PrMeC<sub>6</sub>H<sub>3</sub>, 60, 196-9°. The appropriate II (0.02 mole) in 300 cc. AcOH hydrogenated 45 min. at 35 lb. initial pressure over 2.0 g. 10% Pd-C, treated with 15 cc. concentrated H<sub>2</sub>SO<sub>4</sub>,

filtered, added with stirring during 2 hrs. to 5.6 g. NaNO<sub>2</sub> in 120 cc. concentrated H<sub>2</sub>SO<sub>4</sub> and 40 cc. AcOH at -5°, stirred 2 hrs. at -5°, treated with stirring at 25° with 17 g. iodine and 12 g. NaI in 300 cc. H<sub>2</sub>O underlayered by 300 cc. CHCl<sub>3</sub>, the aqueous phase extracted after 2

hrs.

with CHCl<sub>3</sub>, and the combined CHCl<sub>3</sub> solns. worked up yielded the corresponding 3,5,4-12(ArO)C<sub>6</sub>H<sub>2</sub>CH<sub>2</sub>CH(NHAc)CO<sub>2</sub>Et (III) (Ar, % yield, and m.p. given): *o*-MeC<sub>6</sub>H<sub>4</sub>, 61, 111-12° (aqueous EtOH); 2,4-Me<sub>2</sub>C<sub>6</sub>H<sub>3</sub>, 55, 139-40° (aqueous EtOH); 2,5-Me<sub>2</sub>C<sub>6</sub>H<sub>3</sub>, 33, 147-8° (aqueous Me<sub>2</sub>CO); 4,2,3-Cl<sub>3</sub>Me<sub>2</sub>C<sub>6</sub>H<sub>2</sub>, 57, 175-6° (aqueous EtOH); 4,2,5-Cl<sub>3</sub>Me<sub>2</sub>C<sub>6</sub>H<sub>2</sub>, 61, 153-4° (aqueous EtOH); *o*-iso-PrC<sub>6</sub>H<sub>4</sub>, 57, 142-3° (aqueous Me<sub>2</sub>CO); 2,5-iso-PrMeC<sub>6</sub>H<sub>3</sub>, 65, 178-9° (aqueous EtOH); 2,4-Me(MeO)C<sub>6</sub>H<sub>3</sub>, 57, 150-1° (aqueous EtOH); 2,5,4-Me<sub>2</sub>(MeO)C<sub>6</sub>H<sub>2</sub>, 52, 163-40° (aqueous EtOH); 2,4-iso-Pr(MeO)C<sub>6</sub>H<sub>3</sub>, 80, 122-3° (aqueous MeOH); 2,5,4-iso-PrMe(MeO)C<sub>6</sub>H<sub>2</sub>, 60, 136-7° (aqueous EtOH). The appropriate III (4.1 mmoles), 25 cc. glacial AcOH, and 25 cc. concentrated HCl refluxed

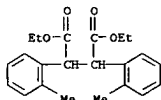
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hrs., cooled, adjusted to pH 5.0 with 2N NaOH, and filtered, the residue dissolved in hot aqueous pyridine and repptd. with 2N HCl at pH 5, the repptn.

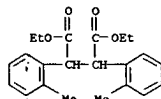
repeated, and the crude product again repptd. from N NaOH in 50 or 75%

## CAS ONLINE PRINTOUT

- L4 ANSWER 142 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 EtOH at pH 5.0 with 2N HCl in the presence of a few drops 2N NaOAc yielded the corresponding 3,5,4-I2(ArO)C6H2CH2CH(NH2)CO2H (IV) (Ar, 1/2 yield, and m.p. with decompn. given): o-MeC6H4, 87, 234-7°; 2,4-Me2C6H3, 88, 190-2°; 2,5-Me2C6H3, 56, 196-7°; 4,2,3-ClMe2C6H2 (crystg. with 1 mole H2O), 71, 213-14°; 4,2,5-ClMe2C6H2 (crystg. with 1 mole H2O), 71, 205-7°; o-iso-PrC6H4, 50, 202-5°; 2,5-iso-PrMeC6H3, 78, 183-5°. The appropriate III (9.5 mmoles), 40 cc. glacial AcOH, and 30 cc. 58% HI refluxed 8 hrs., concd. to near dryness at 50°/5 mm., dissolved in a suspension of Na2S2O5 in hot EtOH, treated with addnl. Na2S2O5 until decolorized, adjusted with 2N NaOAc to pH 5.0, and centrifuged, and the ppt. reprecipitated from N NaOH in 50% EtOH at pH 5.0 with 2N HCl gave the corresponding IV (Ar, 1/2 yield, and m.p. with decompn. given): 2,4-Me(HO)C6H3 (V), 67, 227-9°; 2,5,4-Me2(HO)C6H2 (VI), 87, 199-201°; 2,4-iso-Pr(HO)C6H3 (VII), 87, 184-6°; 2,5,4-iso-PrMe(HO)C6H2 (VIII), 67, 190-14°. V (2.0 g.) in 40 cc. 33% aq. EtNH2 treated with 5.1 cc. aq. soln. of 2.55 g. iodine and 4.0 g. KI during 2 hrs. at room temp., stirred 1 hr., adjusted to pH 5 with AcOH, and centrifuged, and the ppt. reprecipitated 3 times from N NaOH in 50% EtOH at pH 5.0 with 2N HCl contg. a few drops aq. NaOAc, washed, and centrifuged yielded 2.3 g. 5'-iodo deriv. (IX) of V, light tan powder, m. 221-4° (decompn.). VII (1.5 g.) in 25 cc. 33% aq. EtNH2 treated during 2 hrs. at room temp. with 5.3 cc. aq. soln. of 2.7 g. iodine and 4.1 g. KI, stirred 1 hr., and worked up in the usual manner gave only an incompletely iodinated material: a similar run during 9 hrs. resulted in less complete iodination than before. VI (0.52 g.) in 20 cc. 33% aq. EtNH2 treated during 1 hr. with 2.0 cc. aq. soln. of 1.0 g. iodine and 1.3 g. KI, stirred 1 hr., and worked up in the usual manner gave an incompletely iodinated product. VI (0.75 g.) in 5 cc. glacial AcOH stirred 1 hr. with 0.26 g. ICl in 2.1 cc. AcOH and heated 1.5 hrs. at 60° gave only a product with slightly increased iodine content: a similar run with 1.3 mmoles ICl and 0.56 mmole VI gave during 3 hrs. at 60° a product which had lost iodine. V, VI, VII, VIII, and IX showed thymine-like activity in the rat by the antigoiter assay and the O consumption method.
- IT 97116-28-4  
 (Derived from data in the 6th Collective Formula Index (1957-1961))  
 RN 97116-28-4 CAPLUS  
 CN Succinic acid, 2,3-di-o-tolyl-, diethyl ester (6CI, 7CI) (CA INDEX NAME)

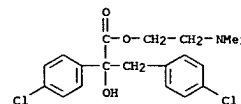


- L4 ANSWER 143 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)



- L4 ANSWER 143 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1960:11193 CAPLUS  
 DN 54:11193  
 OREF 54:2241h-1,2242a-c  
 TI Action of sodamide on o-bromoarylacetates  
 AU Hoch, Joseph; Choisy, Jean M.  
 SO Compt. rend. (1959), 248, 3314-16  
 DT Journal  
 LA Unavailable  
 OS CASREACT 54:11193  
 AB The appropriate Grignard reagent reacted with (CO2Et)2 to give the following Et esters (1/2 yield, b15, m.p. given): p-toluoylformate (I), 41, 155°, 132; m-toluoylformate (II), 24, 150°, 112°; o-toluoylformate (III), 26, 145°, 154°; p-methoxybenzoylformate (IV), 38, 185, 128°; o-methoxybenzoylformate (V), 38, 183°, 117°; o-naphthoylformate (VI), 34, 203°, 208°. I-VI were reduced by Al amalgam in moist Et2O to give, resp.: Et p-methylmandelate (VII), 82%, b15 167°, m. 77°; Et m-methylmandelate (VIII), 53%, b15 153°; Et o-methylmandelate (IX), 67%, b15 152°; Et p-methoxymandelate (X), 63%, m. 46°; Et o-methoxymandelate (XI), 70%, b10 170°; Et 1-a-hydroxynaphthoylacetate (XII), 50%, m. 67°. Treatment of 3 moles each of VII-XII with 2 moles PBr3 in warm C6H6 solution converted them to the following: Et p-tolyl-a-bromoacetate (XIII), 51%, b30 177°; Et m-tolyl-a-bromoacetate (XIV), 33%, b15 155-6°; Et o-tolyl-a-bromoacetate (XV), 45%, b15 155-6°; Et p-methoxyphenyl-a-bromoacetate (XVI), 68%, b2 153-4°; Et o-methoxyphenyl-a-bromoacetate (XVII), 56%, b1 130-40°; and Et 1-naphthyl-a-bromoacetate (XVIII), 40%, b2 185°. The bromoacetates were treated with NaNH2 (Vavon and Antonini, C.A. 45, 582i) and the products separated and identified. XIII gave 60% material, b15 240-50°, which was di-Et di-p-tolylmaleate, m. 84°, and di-Et di-p-tolylfumarate, m. 117°. From the non-crystallizable residue, after saponification, there was obtained di-p-tolylmaleic anhydride and di-p-tolylfumaric acid. XIV gave di-Et di-m-tolylfumarate, m. 96°, di-m-tolylmaleic anhydride, m. 92-3°, and di-m-tolylfumaric acid, m. 265°. XV gave a fraction, b15 215-40°, which yielded a small amount di-Et di-o-tolylsuccinate, m. 149°. XVII reacted difficultly and gave noncryst. products which on saponification gave a trace of di-o-methoxyphenylmaleic anhydride, m. 162°. XVIII gave only resinous products.
- IT 97116-28-4P, Succinic acid, 2,3-di-o-tolyl-, diethyl ester  
 RL: PREP (Preparation)  
 (preparation of)  
 RN 97116-28-4 CAPLUS  
 CN Succinic acid, 2,3-di-o-tolyl-, diethyl ester (6CI, 7CI) (CA INDEX NAME)

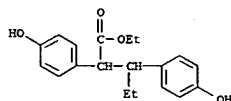
- L4 ANSWER 144 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1959:114554 CAPLUS  
 DN 53:114554  
 OREF 53:20554d-e  
 TI Pharmacology of organic acid esters and amides  
 AU Oyaizu, Susumu  
 CS Univ. Kyoto  
 SO Yakugaku Kenkyu (1958), 30, 108-19  
 CODEN: YKKKA8; ISSN: 0372-7734  
 DT Journal  
 LA Unavailable  
 AB Pharmacol. action of over 20 derivs. of dimethylaminoethyl diphenylacetate and diphenylglycolate was examined for possible relation between chemical structure and pharmacol. activity. No definite relation was found except in atropine activity; the activity was generally weakened by substitution of one of the Ph groups with benzyl, substitution of the base with a heterocyclic system, substitution of the phenyl with Cl or MeO at the para position, and derivation of the ester to its amide. Atropine activity increased by quaternization of the base, and substitution of dimethyl in the base with diethyl.
- IT 109095-40-1, Lactic acid, 2,3-bis(p-chlorophenyl)-, 2-dimethylaminoethyl ester  
 (pharmacology of)  
 RN 109095-40-1 CAPLUS  
 CN Lactic acid, 2,3-bis(p-chlorophenyl)-, 2-dimethylaminoethyl ester (6CI) (CA INDEX NAME)



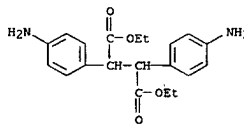
## CAS ONLINE PRINTOUT

L4 ANSWER 145 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1956:77742 CAPLUS  
 DN 50:77742  
 OREF 50:14664f-1,14665a-c  
 TI Nitrogen containing derivatives of esters of meso-a,a'-diphenylsuccinic acid  
 AU Torf, S. F.; Khromov-Borisov, N. V.  
 SO Zhurnal Obshchei Khimii (1956), 26, 856-64  
 CODEN: ZOJHA4; ISSN: 0044-460X  
 DT Journal  
 LA Unavailable  
 AB The 3 esters of diphenylsuccinic acids containing N, described below, show curare-like activity. To 23.4 g. PhCH<sub>2</sub>CN and 48.6 g. HBr-free EtO<sub>2</sub>CCHBrPh was added in 20 min. 4.9 g. Na in 120 ml. EtOH with cooling; after stirring 45 min. and standing overnight the mixture was filtered and the precipitate washed with EtOH and 200 ml. H<sub>2</sub>O yielding a residue of 37.6% PhCH(CN)CHPhCO<sub>2</sub>Et (I), m. 139-40° (from EtOH). The basic filtrate was concentrated, washed with H<sub>2</sub>O, and extracted with Et<sub>2</sub>O yielding 15.4 g. unknown product, bl-2 76-102°, and 2.8 g. viscous oil, bl-2 165-78°, which gave 0.5 g. I. To 2.4 g. Na in 65 ml. EtOH was added 19.3 g. molten Ph<sub>2</sub>CHCN and 15 ml. EtOH, the solution was chilled and treated over 20 min. with 24.3 g. EtO<sub>2</sub>CCHBrPh and 20 ml. EtOH; after 0.5 hr. the mixture was stirred 1 hr. with cooling and kept overnight; the precipitate was filtered off and washed with H<sub>2</sub>O yielding 66.8% Ph<sub>2</sub>C(CN)CHPhCO<sub>2</sub>Et, m. 164-5° (crude), m. 165-6° (from EtOH). Hydrolysis of 75 g. (PhCHCN)<sub>2</sub> according to Wawzonek (C.A. 34, 3730.3) followed by separation of the resulting acid and conversion to the Ba salt gave a precipitate of racemic (PhCHCO<sub>2</sub>H)<sub>2</sub> Ba salt, while the filtrate containing the Ba salt of the meso form was heated to 70° and acidified with HCl yielding 73.1% meso-(PhCHCO<sub>2</sub>H)<sub>2</sub>, m. 227-9°. Boiling the Ba salt of the racemate with dilute H<sub>2</sub>SO<sub>4</sub> and separation of BaSO<sub>4</sub> gave on cooling 19.7% racemic (PhCHCO<sub>2</sub>H)<sub>2</sub> monohydrate, m. 183-5°. Refluxing I with 1:1 H<sub>2</sub>SO<sub>4</sub> and AcOH 7 hrs., gave some EtOAc; the residue was refluxed 6 hrs. with more AcOH and diluted yielding 92.3% meso-(PhCHCO<sub>2</sub>H)<sub>2</sub>, m. 227-9°, which (37.8 g.) with 59.5 g. PCl<sub>5</sub> and 40 ml. POCl<sub>3</sub> gave on heating to 100° 75.1% meso-(PhCHCOCl)<sub>2</sub>, m. 186-8°, which refluxed with EtOH gave the di-Et ester, m. 140-1°; Me<sub>2</sub>NCH<sub>2</sub>CH<sub>2</sub>OH similarly gave the bis(dimethylaminoethyl) ester (II), m. 93-5° (di-HCl salt, m. 239-40°); similarly was prepared bis(diethylaminoethyl) ester (III), m. 58-60° (di-HCl salt, m. 205-6°). II treated with MeI in Me<sub>2</sub>CO gave the dimethiodide, m. 251-3°; III gave the dimethiodide, m. 225-6°. To 50 ml. HNO<sub>3</sub> (d. 1.52) was added with cooling 10 g. meso-(PhCHCO<sub>2</sub>H)<sub>2</sub> at about 0° in 1 hr. and after stirring 0.5 hr. the mixture was quenched with ice, the separated product dried and boiled 1 hr. with 200 ml. AcOH and filtered hot yielding 8.5 g. solid, m. 227-8°, which was taken up in aqueous NH<sub>4</sub>OH, decolorized and treated with hot AcOH yielding 56.4% meso-(p-O<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>CHCO<sub>2</sub>H)<sub>2</sub>, m. 238-40°; this with EtOH-H<sub>2</sub>SO<sub>4</sub> gave after 27 hrs. refluxing 38.8% di-Et ester, m. 159-61°; the same was obtained in 62.7% yield on nitration of the unsubstituted ester above with HNO<sub>3</sub> (d. 1.51) at about 0°.

L4 ANSWER 146 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 1955:2215 CAPLUS  
 DN 49:2215  
 OREF 49:500a-c  
 TI Antihypertensive action of 2,3-diarylalkanonitriles  
 AU Sturtevant, F. M.; Saunders, F. J.; Hamburger, W. E.  
 CS G. D. Searle & Co., Chicago  
 SO Journal of Pharmacology and Experimental Therapeutics (1954), 112, 176-84  
 CODEN: JPETAB; ISSN: 0022-3565  
 DT Journal  
 LA Unavailable  
 AB A series of 35 diarylalkanes (not named) were tested for depressor activity in renal hypertensive rats and in rats with metacorticonid hypertension produced by subcutaneous implantation of 20 mg. of deoxycorticosterone acetate. A significant and approx. equal activity was shown by 2,3-bis(p-hydroxyphenyl)-valeronitrile (I) and the corresponding propionitrile (II). I also displayed estrogenic activity, growth inhibition, and stimulation of adrenal hypertrophy in normotensive rats, and in large doses induced severe hemorrhagic responses in dogs. The corresponding effects of II, if any, were slight. Replacement of the nitrile group of I by COOH, CONH<sub>2</sub>, COOEt, COMe, or CH<sub>2</sub>NH<sub>2</sub>-HBr greatly reduced the depressor activity.  
 IT 857479-98-2, Valeric acid, 2,3-bis(p-hydroxyphenyl)-, ethyl ester (depressor activity of)  
 RN 857479-98-2 CAPLUS  
 CN Valeric acid, 2,3-bis(p-hydroxyphenyl)-, ethyl ester (5CI) (CA INDEX NAME)



L4 ANSWER 145 OF 146 CAPLUS COPYRIGHT 2007 ACS on STN (Continued)  
 Reduction of the ester with SnCl<sub>2</sub>·2H<sub>2</sub>O in EtOH in the presence of CaCO<sub>3</sub> gave in 5 hrs. 70.2% meso-(p-H<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>CHCO<sub>2</sub>Et)<sub>2</sub>, m. 183-5° (crude); m. 186-7° (from C<sub>6</sub>H<sub>6</sub>); without added CaCO<sub>3</sub> the reaction tends to give a low melting product. This refluxed with MeI in EtOH in the presence of H<sub>2</sub>O and CaCO<sub>3</sub> 5 hrs. gave the dimethiodide, m. 212-14° (from H<sub>2</sub>O). The 3 methiodides described above showed curare-like properties.  
 IT 860426-35-3P, Succinic acid, 2,3-bis(p-aminophenyl)-, diethyl ester  
 RL: PREP (Preparation)  
 (preparation of)  
 RN 860426-35-3 CAPLUS  
 CN Succinic acid, 2,3-bis(p-aminophenyl)-, diethyl ester (5CI) (CA INDEX NAME)



CAS ONLINE PRINTOUT

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SINCE FILE	TOTAL
ENTRY	SESSION

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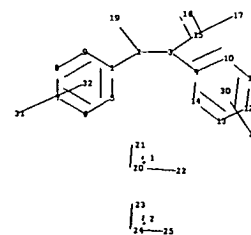
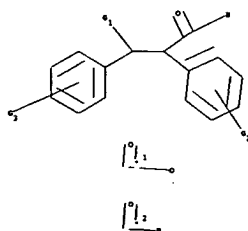
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TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and

CAS ONLINE PRINTOUT



CAS ONLINE PRINTOUT

1:Atom 2:CLASS 3:CLASS 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom  
11:Atom 12:Atom 13:Atom 14:Atom 15:CLASS 16:CLASS 17:CLASS 19:CLASS  
20:CLASS 21:CLASS 22:CLASS 23:CLASS 24:CLASS 25:CLASS 29:CLASS 30:Atom  
31:CLASS 32:Atom

L5        STRUCTURE UPLOADED

=> s 15

SAMPLE SEARCH INITIATED 10:04:19 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED -        148 TO ITERATE

100.0% PROCESSED        148 ITERATIONS

19 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:    ONLINE    \*\*COMPLETE\*\*  
                             BATCH    \*\*COMPLETE\*\*

PROJECTED ITERATIONS:        2231 TO        3689

PROJECTED ANSWERS:            119 TO        641

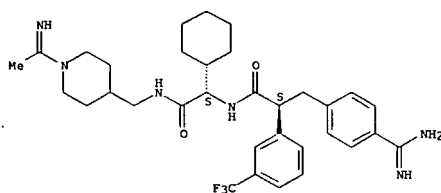
L6            19 SEA SSS SAM L5

=> d scan

# CAS ONLINE PRINTOUT

L6 19 ANSWERS REGISTRY COPYRIGHT 2007 ACS on STN  
 IN Benzenepropanamide, 4-(aminominoethyl)-N-[(1S)-1-cyclohexyl-2-[[[1-(1-  
 iminoethyl)-4-piperidinyl]methyl]amino]-2-oxoethyl]-α-[3-  
 (trifluoromethyl)phenyl]-, (aS)-  
 MF C33 H43 F3 N6 O2  
 CI COM

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):END

CAS ONLINE PRINTOUT

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Executing the logoff script...

=> LOG H

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.45

664.62

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

CA SUBSCRIBER PRICE

0.00

-71.76

SESSION WILL BE HELD FOR 120 MINUTES

STN INTERNATIONAL SESSION SUSPENDED AT 10:04:35 ON 27 DEC 2007

CAS ONLINE PRINTOUT

=> d his

(FILE 'HOME' ENTERED AT 08:08:15 ON 27 DEC 2007)

FILE 'REGISTRY' ENTERED AT 08:08:27 ON 27 DEC 2007

L1 STRUCTURE UPLOADED

L2 1 S L1

L3 1 S L1 CSS

L4 1 S L1 CSS FUL

FILE 'REGISTRY' ENTERED AT 08:17:29 ON 27 DEC 2007

L5 1 S L1

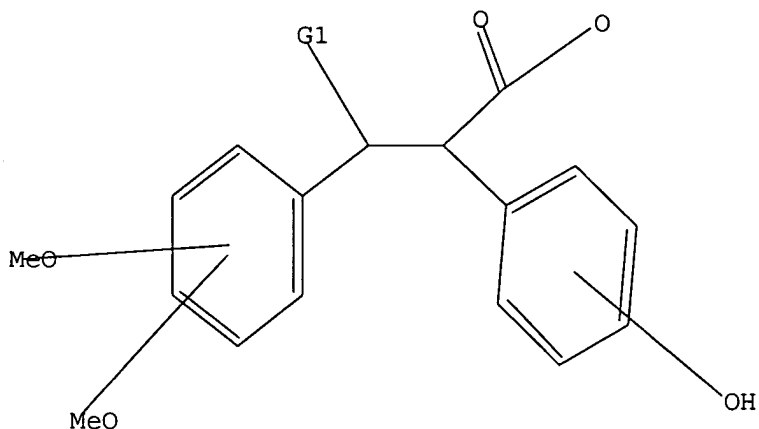
L6 5 S L1 FUL

FILE 'CAPLUS' ENTERED AT 08:17:45 ON 27 DEC 2007

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L1 HAS NO ANSWERS

L1 STR



G1 H,Ak,CH

Structure attributes must be viewed using STN Express query preparation.

=> s 16

L7 12 L6

=> d bib abs hitstr 1-12

L7 ANSWER 1 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN

AN 2003:757334 CAPLUS

DN 139:276885

TI Preparation of novel heterocyclic analogs of diphenylethylene compounds as antidiabetics

IN Neogi, Partha; Dey, Debendranath; Medicherla, Satyanarayana; Nag, Bishwajit; Lee, Arthur

PA USA

SO U.S. Pat. Appl. Publ., 66 pp., Cont.-in-part of U.S. Ser. No. 843,167. CODEN: USXXCO

DT Patent

LA English

FAN.CNT 12

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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## CAS ONLINE PRINTOUT

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	US 2002025975	A1	20020228	US 2001-785554	20010220
	US 2002032225	A1	20020314	US 2001-843167	20010427
	US 7105552	B2	20060912		
	CA 2501456	A1	20040422	CA 2003-2501456	20031008
	WO 2004033438	A1	20040422	WO 2003-US31803	20031008
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
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	AU 2003282754	A1	20040504	AU 2003-282754	20031008
	EP 1549625	A1	20050706	EP 2003-774638	20031008
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	CN 1708486	A	20051214	CN 2003-80101164	20031008
	JP 2006505551	T	20060216	JP 2004-543490	20031008
	US 2006235062	A1	20061019	US 2006-530757	20060508
PRAI	US 1999-287237	A2	19990406		
	US 2000-591105	B2	20000609		
	US 2001-785554	A2	20010220		
	US 2001-843167	A2	20010427		
	US 1998-74925	A2	19980508		
	US 2002-265902	A	20021008		
	WO 2003-US31803	W	20031008		
OS	MARPAT 139:276885				
GI					

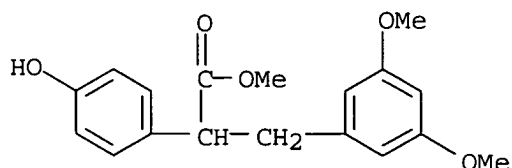
\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The title compds. [I; Z = II-IV; n, m, q and r = 0-4 ( $n+m \leq 4$  and  $q+r \leq 4$ ); p, s = 0-5 ( $p+s \leq 5$ ); R, R2 = H, alkyl, alkenyl, etc.; R1 = H, alkyl, alkenyl, etc.; A, A1, A2 = H, acylamino, acyloxy, alkanoyl, etc.; B, B1, B2 = H, acylamino, acyloxy, alkanoyl, etc.; or A and B together, or A1 and B1 together, or A2 and B2 together, may be joined to form a methylenedioxy or ethylenedioxy; X, X1 = (un)substituted NH, O, S] which are effective in lowering blood glucose level, serum insulin, triglyceride and free fatty acid levels in animal models of Type II diabetes, were prepared E.g., a multi-step synthesis of V, starting from 3,5-dimethoxybenzaldehyde and 4-hydroxyphenylacetic acid, was given. The compound V showed strong glucose lowering activity even though it is a weak PPAR- $\gamma$  agonist (data given). The compds. I are disclosed as useful for a variety of treatments including the treatment of inflammation, inflammatory and immunol. diseases, insulin resistance, hyperlipidemia, coronary artery disease, cancer and multiple sclerosis. Pharmaceutical composition comprising the compound I was claimed.

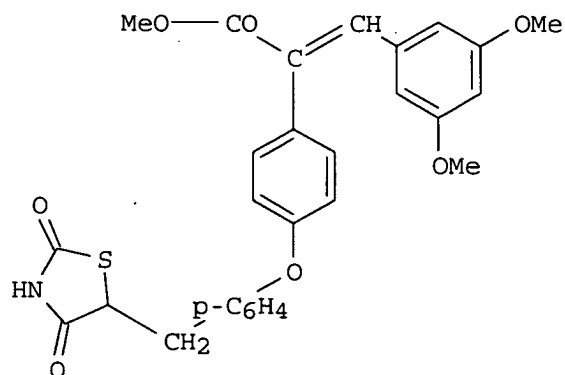
IT 380881-43-6P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (preparation of diphenylethylene compds. containing thiazolidinedione or oxazolidinedione moieties for treating diabetes, inflammatory or immunol. disease in combination with other agents)

RN 380881-43-6 CAPLUS

CN Benzenepropanoic acid,  $\alpha$ -(4-hydroxyphenyl)-3,5-dimethoxy-, methyl ester (CA INDEX NAME)



L7 ANSWER 2 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2003:645701 CAPLUS  
 DN 140:87046  
 TI Synthesis and structure-Activity relationship studies of cinnamic acid-based novel thiazolidinedione antihyperglycemic agents  
 AU Neogi, Partha; Lakner, Fredrick J.; Medicherla, Satyanarayana; Cheng, Jin; Dey, Debendranath; Gowri, Maya; Nag, Bishwajit; Sharma, Somesh D.; Pickford, Lesley B.; Gross, Coleman  
 CS Department of Chemistry, Calyx Therapeutics Inc., Hayward, CA, 94545, USA  
 SO Bioorganic & Medicinal Chemistry (2003), 11(18), 4059-4067  
 CODEN: BMECEP; ISSN: 0968-0896  
 PB Elsevier Science Ltd.  
 DT Journal  
 LA English  
 OS CASREACT 140:87046  
 GI

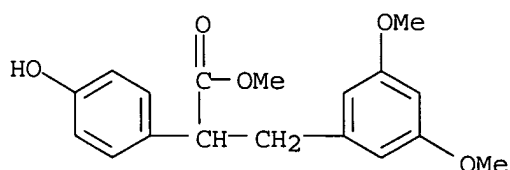


I

AB A number of 2,4-thiazolidinedione derivs. of -Ph substituted cinnamic acid were synthesized and studied for their PPAR agonist activity. The E-isomer of cinnamic acid, I, showed moderate PPAR transactivation. The corresponding Z-isomer and double bond reduced derivative were found to be much less potent. Although the E-isomer showed a moderate PPAR $\gamma$  transactivation, it demonstrated a strong glucose-lowering effect in a genetic rodent model of diabetes. Results of pharmacokinetic, metabolism and permeability studies are consistent with I being an active prodrug with the hydrolyzed carboxylate as an active metabolite that has similar

## CAS ONLINE PRINTOUT

glucose lowering and PPAR $\gamma$  agonist properties.  
IT 380881-43-6P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(cinnamic acid-based thiazolidinedione antihyperglycemic agents)  
RN 380881-43-6 CAPLUS  
CN Benzenepropanoic acid,  $\alpha$ -(4-hydroxyphenyl)-3,5-dimethoxy-, methyl  
ester (CA INDEX NAME)

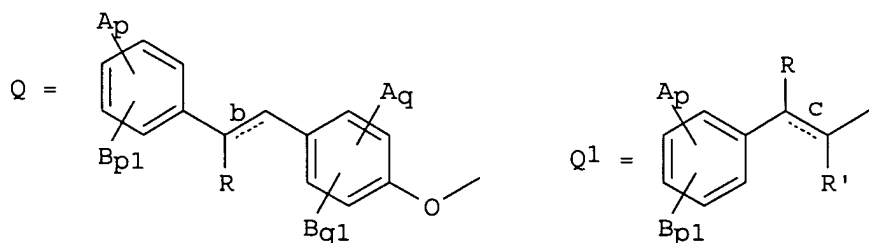
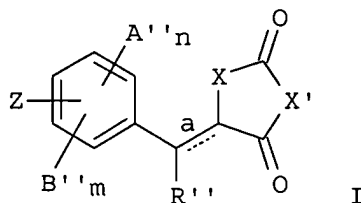


RE.CNT 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 3 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN  
AN 2002:185699 CAPLUS  
DN 136:247571  
TI Preparation of novel heterocyclic analogs of diphenylethylene compounds as  
inhibitors of cytokines or cyclooxygenase  
IN Nag, Bishwajit; Dey, Debendranath; Medicherla, Satyanarayana; Neogi,  
Partha  
PA Theracos, Inc., USA  
SO U.S. Pat. Appl. Publ., 34 pp., Cont.-in-part of U.S. Ser. No. 785,554.  
CODEN: USXXCO  
DT Patent  
LA English  
FAN.CNT 12

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002032225	A1	20020314	US 2001-843167	20010427
	US 7105552	B2	20060912		
	US 6245814	B1	20010612	US 1998-74925	19980508
	US 2002025975	A1	20020228	US 2001-785554	20010220
	CA 2410171	A1	20011220	CA 2001-2410171	20010605
	WO 2001095859	A2	20011220	WO 2001-US17950	20010605
	WO 2001095859	A3	20030828		
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	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 200166670	A	20011224	AU 2001-66670	20010605
	EP 1360178	A2	20031112	EP 2001-944241	20010605
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
	JP 2004527455	T	20040909	JP 2002-510041	20010605
	CN 1537002	A	20041013	CN 2001-820445	20010605
	NZ 522660	A	20050527	NZ 2001-522660	20010605
	US 2003181494	A1	20030925	US 2002-265902	20021008

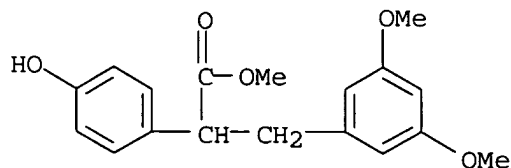
	MX 2002PA12038	A	20031015	MX 2002-PA12038	20021205
	US 2004186299	A1	20040923	US 2004-808519	20040325
	US 7202366	B2	20070410		
PRAI	US 1998-74925	A2	19980508		
	US 1999-287237	A2	19990406		
	US 2000-591105	A2	20000609		
	US 2001-785554	A2	20010220		
	US 2001-843167	A	20010427		
	WO 2001-US17950	W	20010605		
OS	MARPAT 136:247571				
GI					



AB Novel diphenylethylene compds. and derivs. thereof containing thiazolidinedione or oxazolidinedione moieties are provided which are effective in lowering blood glucose level, serum insulin, triglyceride and free fatty acid levels in animal models of Type II diabetes. The above compds. and their derivs. are resented by formula [I; Z = Q, Q1, H, A", B"; wherein n, m, q, q1 = integers from zero to 4 provided that n+m≤4 and q+q1≤4; p, p1 = integers from zero to 5 provided that p+p1≤5; a, b and c are double bonds which may be present or absent; when present; the double bonds may be in the E or Z configuration and, when absent, the resulting stereocenters may have the R- or S-configuration; R, R', R" = H, C1-20 linear or branched alkyl, C2-20 linear or branched alkenyl, CO2Z' (wherein Z' = H, Na, K, or other pharmaceutically acceptable counterion such as Ca, Mg, ammonium, tromethamine, and the like), CO2R''', NH2, NHR''', N(R''')2, OH, OR''', halo, substituted C1-20 linear or branched alkyl or substituted C2-20 linear or branched alkenyl (wherein R''' is C1-20 linear or branched alkyl or linear or branched alkenyl); A, A', A'' = H, C1-20 acylamino, C1-20 acyloxy, C1-20 alkanoyl, C1-20 alkoxycarbonyl, C1-20 alkoxy, C1-20 alkylamino, C1-20 alkylcarboxylamino, CO2H, cyano, halo, HO; B, B', B'' = H, C1-20 acylamino, C1-20 acyloxy, C1-20 alkanoyl, C1-20 alkanoyl, C1-20 alkoxycarbonyl, C1-20 alkoxy, C1-20 alkylamino, C1-20 alkylcarboxylamino, aroyl, aralkanoyl, CO2H, cyano, halo, HO; or A and B together, or A' and B' together, or A'' and B'' together, may be joined to form a methylenedioxy or ethylenedioxy group; and X, X' are independently -NH, -NR''', O or S]. In contrast to previously reported thiazolidinedione compds., known to lower leptin levels, the present compds. increase leptin levels and have no known liver toxicity. They inhibit the activity of TNF-alpha, interleukin IL-1 or IL-6 or cyclooxygenase-2 (COX-2). The

comps. are disclosed as useful for a variety of treatments including the treatment of inflammation, inflammatory and immunol. diseases, insulin resistance, hyperlipidemia, coronary artery disease, cancer and multiple sclerosis. Thus, To a mixture of 3,5-dimethoxybenzaldehyde (500 g) and p-hydroxyphenylacetic acid (457 g) was added acetic anhydride (1 L) and triethylamine (420 mL) and the nonhomogeneous mixture on heating became homogeneous at 70° and stirred at 130-140° for 6 h to give 47% 3-(3,5-dimethoxyphenyl)-2-(4-hydroxyphenyl)acrylic acid (II) (428 g). II (427.5 g) was suspended in 3 L methanol, treated with 100 mL concentrated H<sub>2</sub>SO<sub>4</sub>, and heated at reflux for 20 h under Ar to give 97% 3-(3,5-dimethoxyphenyl)-2-(4-hydroxyphenyl)acrylic acid Me ester (III). III (433 g) was dissolved in 1.6 L DMF, treated with 60.4 g NaH (50% in oil) and the with 185 mL p-fluorobenzaldehyde, and heated at 180° for 18 h to give 77% 3-(3,5-dimethoxyphenyl)-2-[4-(4-formylphenoxy)phenyl]acrylic acid Me ester which (352 g), 2,4-thiazolidinedione 98.6, benzoic acid 134, and piperidine 107.4 g were heated in 2.5 L toluene at reflux with continuous removal of H<sub>2</sub>O through Dean-Stark apparatus to give 86% 3-(3,5-dimethoxyphenyl)-2-[4-[4-(2,4-dioxothiazolidin-5-ylidenemethyl)phenoxy]phenyl]acrylic acid Me ester (IV). IV (30 g) was hydrogenated over 15 g 10% Pd-C in 900 mL dioxane in a Parr apparatus at 60 Psi for 24 h, followed by adding 15 g 10% Pd-C and continuing the hydrogenation for another 24 h to give 86% 3-(3,5-dimethoxyphenyl)-2-[4-[4-(2,4-dioxothiazolidin-5-ylmethyl)phenoxy]phenyl]acrylic acid Me ester (V). When V was orally administered to ob/ob mice with a single oral dose (50 mg/kg body weight), there was a 62 % drop in blood glucose level and, similar to db/db mice, there was no significant increase in body weight between the control and the treatment groups. This was in contrast to treatment of diabetic animals by thiazolidinedione type comps. which are known to be associated with increase in body weight

IT 380881-43-6P, 3-(3,5-Dimethoxyphenyl)-2-(4-hydroxyphenyl)propionic acid methyl ester  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (intermediate; preparation of novel heterocyclic analogs of phenylethylene comps. as inhibitors of cytokines or cyclooxygenase for therapeutic agents)  
 RN 380881-43-6 CAPLUS  
 CN Benzenepropanoic acid,  $\alpha$ -(4-hydroxyphenyl)-3,5-dimethoxy-, methyl ester (CA INDEX NAME)



RE.CNT 84 THERE ARE 84 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 4 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN  
 AN 2002:11108 CAPLUS  
 DN 136:69654  
 TI Preparation of diphenylethylene compounds as antidiabetic agents  
 IN Nag, Bishwagit; Dey, Debendranath; Medicherla, Satyanarayana; Neogi, Partha  
 PA USA  
 SO U.S. Pat. Appl. Publ., 38 pp., Cont.-in-part of U.S. Ser. No. 642,618.

## CAS ONLINE PRINTOUT

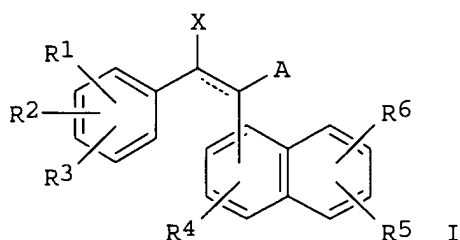
CODEN: USXXCO

DT Patent

LA English

FAN.CNT 12

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002002200	A1	20020103	US 2001-777551	20010205
	US 6624197	B1	20030923	US 2000-642618	20000817
	US 2004097593	A1	20040520	US 2003-430677	20030507
	US 2007259961	A9	20071108		
	US 2004259938	A1	20041223	US 2003-690844	20031023
PRAI	US 2000-180340P	P	20000204		
	US 2000-642618	A2	20000817		
	US 1998-74925	A2	19980508		
	US 1999-436047	A3	19991108		
	US 2001-777551	B2	20010205		
	US 2001-334818P	P	20011129		
	US 2002-75442	A2	20020215		
	WO 2002-US38150	A2	20021127		
OS	MARPAT 136:69654				
GI					



AB Title compds. I [wherein A = CO<sub>2</sub>R, CONR'R", CN, or COR<sub>7</sub>; X = H, OH, or (un)substituted alkyl or alkenyl; R = H, (ar)alkyl, or aryl; R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, and R<sub>7</sub> = independently H, (un)substituted alkyl or alkenyl; CO<sub>2</sub>R, NR'R", or CONCR'R"; R' and R" = independently H, alkyl, aryl, OH, alkoxy, acylamino, acyloxy, alkanoyl, alkoxycarbonyl, halo, NO<sub>2</sub>, SO<sub>2</sub>R'''; CZ<sub>3</sub>; Z = independently H, halo, (halo)alkyl, or SR'''; R''' = H or alkyl; or R<sub>2</sub> and R<sub>3</sub> together or R<sub>5</sub> and R<sub>6</sub> together may be joined to form (m)ethylenedioxy; with provisos; and E and Z isomers thereof] were prepared and shown to decrease circulating concns. of glucose when administered orally. For instance, 3,5-dimethoxybenzaldehyde was coupled with p-hydroxyphenyl acetic acid using TEA in acetic anhydride to give (E)-3-(3,5-dimethoxyphenyl)-2-(4-hydroxyphenyl)acrylic acid (II), which exhibited glucose-lowering effects for more than 15 days at a dose of 20 mg/kg p.o. Examples also include twenty-six bioassays, such as studies on the effects of II on insulin resistant rats, lipid and leptin concns., PPAR binding, overexpression of the human insulin-like growth factor 1 receptor and human insulin receptor, toxicity, and kinetics of drug absorption. I are orally effective antidiabetic agents that normalize glucose and lipid metabolism

IT 353228-00-9P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

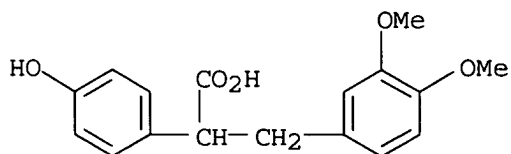
(preparation and testing of diphenylethylene antidiabetic agents that normalize glucose and lipid metabolism in relation to insulin resistance)

RN 353228-00-9 CAPLUS

CN Benzenepropanoic acid, α-(4-hydroxyphenyl)-3,4-dimethoxy- (CA INDEX

## CAS ONLINE PRINTOUT

(NAME)



L7 ANSWER 5 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN

AN 2001:923567 CAPLUS

DN 136:37596

TI Preparation and activity of diphenylethylene thiazolidinedione or oxazolidinedione compounds as antidiabetics or antiinflammatories

IN Neogi, Partha; Nag, Bishwajit; Medicherla, Satyanarayana; Dey, Debendranath

PA Calyx Therapeutics, Inc., USA

SO PCT Int. Appl., 76 pp.

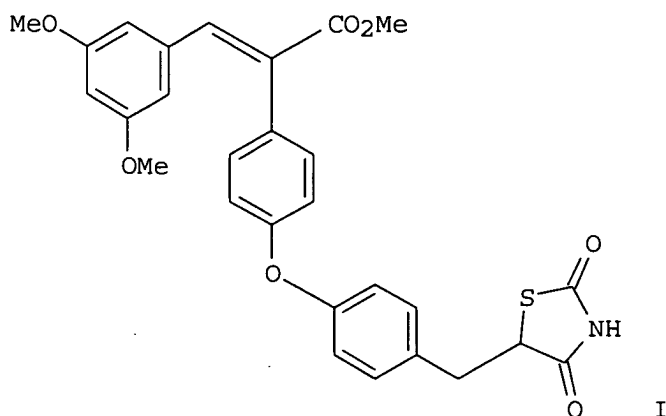
CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 12

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	WO 2001095859	A3	20030828		
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	US 2002025975	A1	20020228	US 2001-785554	20010220
	US 2002032225	A1	20020314	US 2001-843167	20010427
	US 7105552	B2	20060912		
	CA 2410171	A1	20011220	CA 2001-2410171	20010605
	AU 200166670	A	20011224	AU 2001-66670	20010605
	EP 1360178	A2	20031112	EP 2001-944241	20010605
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR			
	JP 2004527455	T	20040909	JP 2002-510041	20010605
	NZ 522660	A	20050527	NZ 2001-522660	20010605
	IN 2002CN01998	A	20050225	IN 2002-CN1998	20021204
	MX 2002PA12038	A	20031015	MX 2002-PA12038	20021205
PRAI	US 2000-591105	A2	20000609		
	US 2001-785554	A2	20010220		
	US 2001-843167	A2	20010427		
	US 1998-74925	A2	19980508		
	US 1999-287237	A2	19990406		
	WO 2001-US17950	W	20010605		
OS	MARPAT 136:37596				
GI					



AB Novel diphenylethylene compds. and derivs. thereof containing thiazolidinedione or oxazolidinedione moieties are provided which are effective in lowering blood glucose level, serum insulin, triglyceride and free fatty acid levels in animal models of Type II diabetes. In contrast to previously reported thiazolidinedione compds., known to lower leptin levels, the present compds. increase leptin levels and have no known liver toxicity. Thus, (I) was prepared in five steps by condensation of 3,5-dimethoxybenzaldehyde with 4-hydroxyphenylacetic acid followed by esterification and etherification with 4-fluorobenzaldehyde and condensation with 2,4-thiazolidinedione and hydrogenation of the ylidene double bond. Oral administration of I to obese mice caused a 62% drop in blood glucose level. The compds. are disclosed as useful for a variety of treatments including the treatment of inflammation, inflammatory and immunol. diseases, insulin resistance, hyperlipidemia, coronary artery disease, cancer and multiple sclerosis.

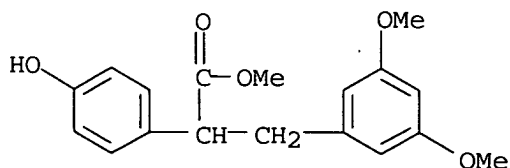
IT 380881-43-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and activity of diphenylethylene thiazolidinedione or oxazolidinedione compds. as antidiabetics or antiinflammatories)

RN 380881-43-6 CAPLUS

CN Benzenepropanoic acid,  $\alpha$ -(4-hydroxyphenyl)-3,5-dimethoxy-, methyl ester (CA INDEX NAME)



L7 ANSWER 6 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN

AN 2001:581654 CAPLUS

DN 135:147444

TI Novel diphenylethylene compounds

IN Nag, Bishwajit; Dey, Debendranath; Medicherla, Satyanarayana

PA Calyx Therapeutics, Inc., USA

SO PCT Int. Appl., 55 pp.

CODEN: PIXXD2

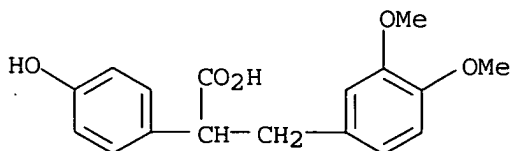
DT Patent

## CAS ONLINE PRINTOUT

LA English

FAN.CNT 12

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001056382	A1	20010809	WO 2001-US3797	20010205
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	US 6624197	B1	20030923	US 2000-642618	20000817
	CA 2397076	A1	20010809	CA 2001-2397076	20010205
	EP 1251738	A1	20021030	EP 2001-905454	20010205
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	JP 2003521500	T	20030715	JP 2001-556090	20010205
	NZ 520829	A	20041224	NZ 2001-520829	20010205
	AU 784974	B2	20060810	AU 2001-33332	20010205
	MX 2002PA07514	A	20040226	MX 2002-PA7514	20020802
	IN 2002CN01321	A	20070309	IN 2002-CN1321	20020822
PRAI	US 2000-180340P	P	20000204		
	US 2000-642618	A	20000817		
	US 1998-74925	A2	19980508		
	WO 2001-US3797	W	20010205		
OS	MARPAT 135:147444				
AB	Novel diphenylethylene compds. that are administered orally to decrease circulating concns. of glucose are provided. The effect on insulin resistant rats is also shown. The effects on lipid and leptin concns. are also shown. The compds. are orally effective anti-diabetic agents that may normalize glucose and lipid metabolism in subjects with diabetes.				
IT	353228-00-9P RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses) (novel diphenylethylene compds. that are anti-diabetic agents that normalize glucose and lipid metabolism in relation to insulin resistance)				
RN	353228-00-9 CAPLUS				
CN	Benzenepropanoic acid, $\alpha$ -(4-hydroxyphenyl)-3,4-dimethoxy- (CA INDEX NAME)				



RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN

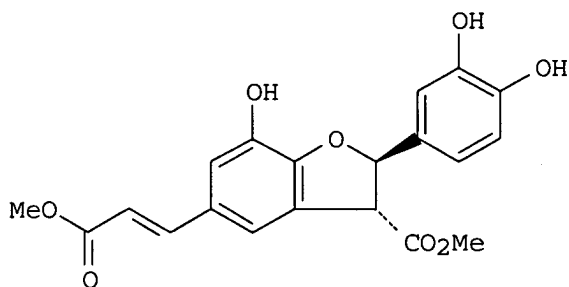
AN 1999:771171 CAPLUS

DN 132:122418

TI Synthesis and biological evaluation of dihydrobenzofuran lignans and related compounds as potential antitumor agents that inhibit tubulin polymerization

AU Pieters, Luc; Van Dyck, Stefaan; Gao, Mei; Bai, Ruoli; Hamel, Ernest;

Vlietinck, Arnold; Lemiere, Guy  
 CS Department of Pharmaceutical Sciences, University of Antwerp, Belgium,  
 B-2610, Belg.  
 SO Journal of Medicinal Chemistry (1999), 42(26), 5475-5481  
 CODEN: JMCMAR; ISSN: 0022-2623  
 PB American Chemical Society  
 DT Journal  
 LA English  
 GI



AB A series of 19 related dihydrobenzofuran lignans and benzofurans was obtained by a biomimetic reaction sequence involving oxidative dimerization of p-coumaric, caffeic, or ferulic acid Me esters, followed by derivatization reactions. All compds. were evaluated for potential anticancer activity in an in vitro human disease-oriented tumor cell line screening panel that consisted of 60 human tumor cell lines arranged in nine subpanels, representing diverse histologies. Leukemia and breast cancer cell lines were relatively more sensitive to these agents than were the other cell lines. Me (E)-3-[2-(3,4-dihydroxyphenyl)-7-hydroxy-3-methoxycarbonyl-2,3-dihydro-1-benzofuran-5-yl]prop-2-enoate (I), the dimerization product of caffeic acid Me ester, containing a 3',4'-dihydroxyphenyl moiety and a hydroxyl group in position 7 of the dihydrobenzofuran ring, showed promising activity. The average GI50 value (the molar drug concentration required for 50% growth inhibition) of I was 0.3  $\mu$ M. Against three breast cancer cell lines, I had a GI50 value of <10 nM. Methylation, reduction of the double bond of the C3-side chain, reduction

of the methoxycarbonyl functionalities to primary alcs., or oxidation of the dihydrobenzofuran ring to a benzofuran system resulted in a decrease or loss of cytotoxic activity. Compound I inhibited mitosis at micromolar concns. in cell culture through a relatively weak interaction at the colchicine binding site of tubulin. In vitro it inhibited tubulin

polymerization

by 50% at a concentration of  $13 \pm 1$   $\mu$ M. The 2R,3R-enantiomer of I was twice as active as the racemic mixture, while the 2S,3S-enantiomer had minimal activity as an inhibitor of tubulin polymerization. These dihydrobenzofuran lignans (2-phenyl-dihydrobenzofuran derivs.) constitute a new group of antimitotic and potential antitumor agents that inhibit tubulin polymerization.

IT 256330-13-9P

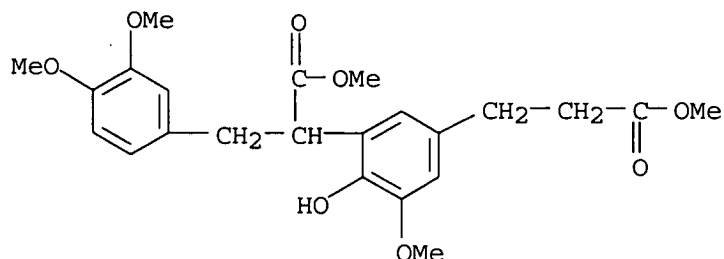
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(synthesis and biol. evaluation of dihydrobenzofuran lignans and related compds. as potential antitumor agents that inhibit tubulin polymerization)

RN 256330-13-9 CAPLUS

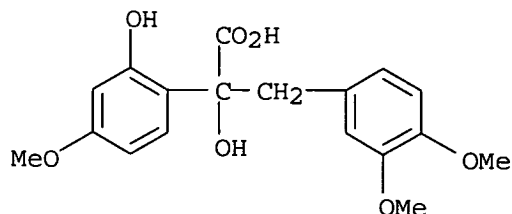
CAS ONLINE PRINTOUT

CN Benzenepropanoic acid,  $\alpha$ -[2-hydroxy-3-methoxy-5-(3-methoxy-3-oxopropyl)phenyl]-3,4-dimethoxy-, methyl ester (CA INDEX NAME)



RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN  
AN 1966:429366 CAPLUS  
DN 65:29366  
OREF 65:5434e-f  
TI Flavanoids. II. Stereochemistry of isoaurones  
AU Marathe, K. G.; Byrne, M. J.; Vidwans, R. N.  
CS Univ. Poona, India  
SO Tetrahedron (1966), 22(6), 1789-95  
CODEN: TETRAB; ISSN: 0040-4020  
DT Journal  
LA English  
AB cf. CA 54, 3402a. Isoaurones (anhydrolactones of 2-hydroxy- $\alpha$ -benzylmandelic acids), trimethylanhydrohazeyl lactone and its 5-methyl-4'-methoxy analog are shown to be trans-stilbene derivs. and are isomerized to the cis compds. by pyridine. The stereochemistry has been established by a stereoselective synthesis of the derived cis-stilbene- $\alpha$ -carboxylic acid and confirmed by uv and N.M.R. studies. A mechanism for isomerization has been suggested.  
IT 6600-62-0P, Lactic acid, 3-(3,4-dimethoxyphenyl)-2-(2-hydroxy-4-methoxyphenyl)-  
RL: PREP (Preparation)  
(preparation of)  
RN 6600-62-0 CAPLUS  
CN Lactic acid, 3-(3,4-dimethoxyphenyl)-2-(2-hydroxy-4-methoxyphenyl)- (7CI, 8CI) (CA INDEX NAME)

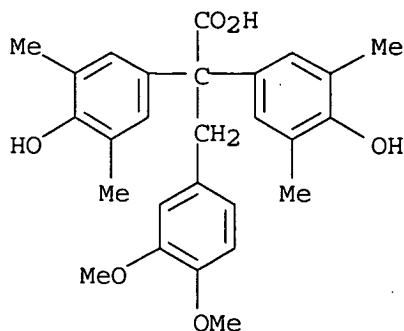


L7 ANSWER 9 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN  
AN 1966:93097 CAPLUS  
DN 64:93097  
OREF 64:17468f-h, 17469a-b  
TI Reaction of 2,6-and 2,4-xilenols with oxo acids

## CAS ONLINE PRINTOUT

AU Merchant, J. R.; Mehta, J. B.  
CS Inst. Sci., Bombay  
SO Indian Journal of Chemistry (1966), 4(2), 76-8  
CODEN: IJOCAP; ISSN: 0019-5103  
DT Journal  
LA English  
GI For diagram(s), see printed CA Issue.  
AB cf. Parris, et al., CA 57, 723i; Smith and Bealor, CA 57, 12377g. Concentrated H<sub>2</sub>SO<sub>4</sub> (5 ml.) was added dropwise with stirring to a mixture of 4.8 g. 2,6-xyleneol (I) and 1.76 g. pyruvic acid kept at 0-5°. After 30 min., the mixture was poured into ice-cold H<sub>2</sub>O to yield 3 g. 2,2-bis(3,5-dimethyl-4-hydroxyphenyl)propionic acid (II), m. 201-2°. II was also obtained when dry HCl was passed through a mixture of the same amounts of the reactants in 10 ml. HOAc at 0-5° for 4 hrs. Similarly, condensation of 2.4 g. I with 1.64 g. phenylpyruvic add, 2.2 g. 3,4-dimethoxyphenylpyruvic acid, 1 g. dimethylpyruvic acid, 1 g. α-oxo-n-valeric acid, and 1.5 g. α-oxoglutaric acid, resp., in HOAc at 0-5° in the presence of HCl yielded 2 g. 2,2-bis(3,5-dimethyl-4-hydroxyphenyl)phenylpropionic acid, m. 239-40° (C<sub>6</sub>H<sub>6</sub>); 1 g. 2,2-bis(3,5-dimethyl-4-hydroxyphenyl)-3,4-dimethoxyphenylpropionic acid, m. 190-1° (dilute EtOH); 450 mg. 2,2-bis(3,5-dimethyl-4-hydroxyphenyl)dimethylpropionic acid, m. 250-1° (C<sub>6</sub>H<sub>6</sub>); 2,2-bis(3,5-dimethyl-4-hydroxyphenyl)propylpropionic acid, m. 235-6° (C<sub>6</sub>H<sub>6</sub>); and 1 g. 2,2-bis(3,5-dimethyl-4-hydroxyphenyl)glutaric acid (III), m. 208-9° (EtOAc-petr. ether). Esterification of III by refluxing 12 hrs. with EtOH saturated with HCl yielded the ester, m. 158-9° (EtOAc). On refluxing 2 hrs. with Ac<sub>2</sub>O, III yielded the corresponding anhydride, m. 230-1° (C<sub>6</sub>H<sub>6</sub>-petr. ether). Dry HCl was passed 6 hrs. at 0-5° through a mixture of 2.4 g. I, 1.2 ml. MeCOCH<sub>2</sub>CO<sub>2</sub>Et, and 10 ml. HOAc and the mixture kept overnight to yield 1.7 g. Et 3,3-bis(3,5-dimethyl-4-hydroxyphenyl)butanoate, m. 147-8° (C<sub>6</sub>H<sub>6</sub>-petr. ether). Attempted condensation of 2.4 g. I with 1.3 g. Et 2-methylacetoacetate in 10 ml. HOAc in the presence of HCl yielded a product, m. 192-3° (EtOAc), which could not be characterized. Similar condensation of 2.4 g. I and 2 ml. ethyl acetonedicarboxylate yielded 400 mg. 2,2-bis(4-hydroxy-3,5-dimethylphenyl)propane, m. 161-2°. The reaction of 2,4-xyleneol (IV) with diethyl oxalacetate Na salt in the presence of concentrated H<sub>2</sub>SO<sub>4</sub> at 0° yielded a crystalline neutral solid (V), which was identical with that obtained by Smith and Bealor (loc. cit.). Concentrated H<sub>2</sub>SO<sub>4</sub> (10 ml.) was added dropwise with stirring to a previously cooled (0-5°) mixture of 2.4 g. IV and 2 ml. ethyl acetonedicarboxylate and the mixture kept overnight to yield 1 g. 4-carboxymethyl-6,8-dimethylcoumarin (VI), m. 206-7°, and 1 g. 4-carbethoxymethyl-6,8-dimethylcoumarin (VII), m. 100° (EtOAc-petr. ether).  
IT 5613-39-8  
(Derived from data in the 7th Collective Formula Index (1962-1966))  
RN 5613-39-8 CAPLUS  
CN Propionic acid, 3-(3,4-dimethoxyphenyl)-2,2-bis(4-hydroxy-3,5-xylyl)- (7CI, 8CI) (CA INDEX NAME)

CAS ONLINE PRINTOUT



L7 ANSWER 10 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1966:93096 CAPLUS

DN 64:93096

OREF 64:17468d-f

TI Highly pure hippuran-131I

AU Charamza, Otakar; Opavsky, Jiri

CS Fakultni Nemocnice, Olomouc, Czech.

SO Vnitrni Lekarstvi (1965), 11(12), 1211-15

CODEN: VNLEAH; ISSN: 0042-773X

DT Journal

LA Czech

AB o-Iodohippuric acid (I) is obtained from o-H<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>CO<sub>2</sub>H

(II) via o-IC<sub>6</sub>H<sub>4</sub>CO<sub>2</sub>H (III) and yields 90% labeled I by ion

exchange with NaI<sup>131</sup>I and isolation on a column containing AgCl-sea sand.

Thus, a mixture of 30.3 ml. 96% H<sub>2</sub>SO<sub>4</sub>, 100 ml. H<sub>2</sub>O, and 25 g. II is treated at 0° dropwise in 1 hr. with a solution of 12.6 g. NaNO<sub>2</sub> in 50 ml.

H<sub>2</sub>O, the brownish solution stirred 30 min. at 0° and 30 g. KI in 50

ml. H<sub>2</sub>O added with cooling discontinued. The mixture is kept 16 hrs.,

heated at 60° 30 min. with stirring, shaken with Et<sub>2</sub>O, the product

taken up with dilute NaOH, precipitated with HCl, and recrystd. from H<sub>2</sub>O to

give 20

g. III, m. 160-1°. III (10 g.) is refluxed at 80° with

fresh SOCl<sub>2</sub> until evolution of SO<sub>2</sub> has ceased (45 min.), the SOCl<sub>2</sub> distilled

in vacuo and with excess C<sub>6</sub>H<sub>6</sub>, the residue in C<sub>6</sub>H<sub>6</sub> added dropwise to a

mixture of 3 g. H<sub>2</sub>NCH<sub>2</sub>CO<sub>2</sub>H, 2 g. NaOH, and 15 ml. H<sub>2</sub>O, the mixture stirred 20

min. at <30° with addition of NaOH solution to keep neutral, cooled, and

made acid to yield 8.6 g. I, m. 171-4° (H<sub>2</sub>O). I (0.01-0.1 g.) and

0.1 ml. 0.2% KI is treated in a rubber-stoppered vial with the

corresponding amount of NaI<sup>131</sup>I added from a syringe, the mixture kept 2 hrs.

in a boiling H<sub>2</sub>O bath and neutralized at 30-40° with 0.5N NaHCO<sub>3</sub>.

The solution is transferred by means of the syringe onto a column of AgCl-sea

sand (1 g.:2 g.) which is then rinsed with 3 ml. physiol. saline. The

preparation contains 0.2-0.3 mc./ml. (50 µc./mg.) and is ready for use in

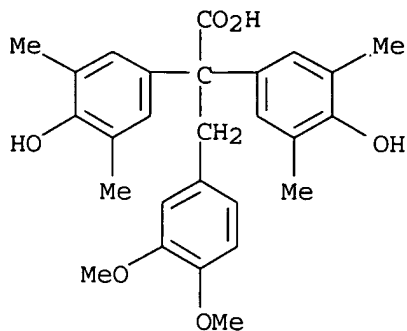
reno-, splenoporto-, and cerebral circulography after sterilization.

IT 5613-39-8

(Derived from data in the 7th Collective Formula Index (1962-1966))

RN 5613-39-8 CAPLUS

CN Propionic acid, 3-(3,4-dimethoxyphenyl)-2,2-bis(4-hydroxy-3,5-xilyl)-  
(7CI, 8CI) (CA INDEX NAME)



L7 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1966:91549 CAPLUS

DN 64:91549

OREF 64:17168e-h

TI Properties and structure of titanium bronzes containing from 0.17 to 5.26 weight % Ti, melted in an induction furnace without the application of an inert atmosphere

AU Gebalski, Stanislaw; Przygodzki, Wieslaw

SO Prace Inst. Mech. Precyzyjnej (1962), 10(4), 23-42

DT Journal

LA Polish

AB Five alloys (Cu-Ti) containing 0.17, 1.72, 2.45, 4.25, and 5.26 weight % Ti and impurities 0.5%, rest Cu were melted in an induction furnace in silica-graphite crucibles of capacity 20 kg. with 225,000 frequency and 30 w. power. Copper (Cu 99.9%) was preheated to 500-600° and the flux was introduced whereupon the Cu was melted and heated to 1200°. Afterwards the alloy Cu-Ti with 16.21 weight % Ti was introduced and the temperature was raised to 1250-1300°. The slag was then thickened by the addition of fluoride. The slag was poured off and the alloy was cast at 1260 ± 20° into preheated (to 200°) molds. The ingots were cooled in air, and then placed in stainless steel boxes and packed with charcoal. The protected ingots were then placed into a preheated furnace where they were heated for 6 h. at 900°. The ingots were then cooled in water at 15° then aged for 25 h. at 450°, and cooled in air. Thereafter the tensile strength, elongation, contraction, hardness and microhardness, modulus of elasticity, and coefficient of linear expansion were determined. Optimum properties were exhibited by the Cu-Ti alloy containing 2.25-4.25 weight % Ti. A higher content of Ti leads to brittleness without much increase in tensile strength and hardness. The alloys containing 2.45 and 4.25% Ti had after aging the following properties: tensile strength in kg./mm.<sup>2</sup>, 66 and 75; hardness in kg./mm.<sup>2</sup> 240 and 200; elongation in 16% and 5, Young's modulus in kg./mm.<sup>2</sup>, 11,800 and 12,000. The melting of Cu-Ti alloys in air in an induction furnace should be done under a flux which should be thickened; otherwise the metal will contain too high a content of oxide inclusions, and the burn off of Ti will be excessive. The optimum aging conditions were 2 h. at 450° or 8 h. at 430°. 18 refs.

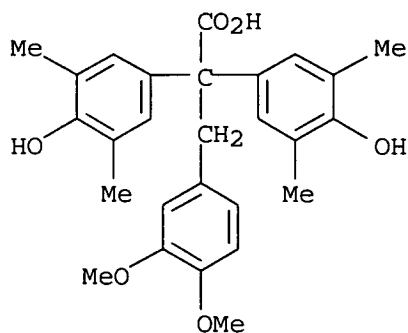
IT 5613-39-8P, Propionic acid, 3-(3,4-dimethoxyphenyl)-2,2-bis(4-hydroxy-3,5-xyl-1-yl)-

RL: PREP (Preparation)

(preparation of)

RN 5613-39-8 CAPLUS

CN Propionic acid, 3-(3,4-dimethoxyphenyl)-2,2-bis(4-hydroxy-3,5-xyl-1-yl)- (7CI, 8CI) (CA INDEX NAME)



L7 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1935:6099 CAPLUS

DN 29:6099

OREF 29:762a-g

TI Constitution of fustin. II and III. The constitution of hazeic acid (1 and 2)

AU Oyamada, Taichiro

SO Nippon Kagaku Kaishi (1921-47) (1934), 55, 763-74, 775-85

CODEN: NIKWAB; ISSN: 0369-4208

DT Journal

LA Unavailable

GI For diagram(s), see printed CA Issue.

AB No crystalline product is obtainable from fustin (I) by treating it with dilute acid or alkali, but when methylfustin (II), m. 142-3°, obtained by methylation of I with CH<sub>2</sub>N<sub>2</sub>, is treated with dilute alkali, it gives trimethylhazeic acid (III). II with alkali gives 10-20% of 7,3',4'-trimethoxy-3-hydroxyflavone (IV), m. 184-5°, and 40% III, colorless column, m. 138°. III with CH<sub>2</sub>N<sub>2</sub> gives Me tetramethylhazeinate (V), m. 171-2°. V gives tetramethylhazeic acid (VI), m. 188-90°, with dilute alkali, and VI gives V with CH<sub>2</sub>N<sub>2</sub>. V and VI are also obtainable by methylation of I with Me<sub>2</sub>SO<sub>4</sub> and alkali (yield 10-40%). III with acid gives anhydrotrimethylhazeyl lactone (VII), C<sub>18</sub>H<sub>16</sub>O<sub>5</sub>, yellow crystals, m. 185°. VII gives anhydrotrimethylhazeic acid (VIII), C<sub>18</sub>H<sub>18</sub>O<sub>6</sub>, on heating several hrs. with alkali. VIII gives Me anhydrotetramethylhazeinate, m. 116°, by diazotation with CH<sub>2</sub>N<sub>2</sub>. VI gives a ketone (IX), m. 98.5-9.5°, by the oxidation with KMO<sub>4</sub> and the fusion of VI gives anhydrotetramethylhazeic acid, m. 166-8°. The above facts indicate that VI is an αHO acid having 2 C<sub>6</sub>H<sub>6</sub> nuclei and at least one of the C next to C holding the OH group is not tertiary. The phenolic OH group is in such a position as to form a stable lactone with CO<sub>2</sub>H; 4 of the O atoms must be in phenolic OH groups since they can easily be methylated by CH<sub>2</sub>N<sub>2</sub> or Me<sub>2</sub>SO<sub>4</sub> and demethylated by HI. The constitution of VI is expressed by 1 of the following formulas: Accordingly III must be VI in which 1 of the 4 OMe groups is replaced by OH. IX gives an oxime (X), C<sub>18</sub>H<sub>21</sub>O<sub>5</sub>N, m. 134-6°, with NH<sub>2</sub>OH-HCl and alc. KOH. X can be transformed into an amide (XI), m. 120-2°, by PCl<sub>5</sub>. Saponification of XI gives a homoveratric acid, m. 96-8°, and a dimethoxyaniline, m. 36-8°, which is closest to 2,4-(MeO)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub>. The constitution of hazeic acid, therefore, is [2,4-(HO)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>][3,4-(HO)<sub>2</sub>C<sub>6</sub>H<sub>8</sub>CH<sub>2</sub>] C(OH)CO<sub>2</sub>H.

IT 6600-62-0P, Hazeic acid, trimethyl-

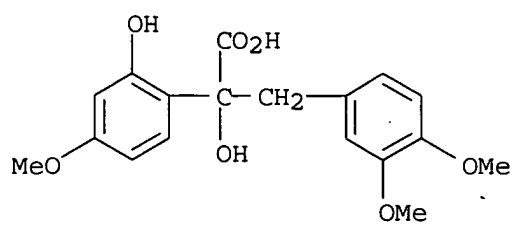
RL: PREP (Preparation)

(preparation of)

RN 6600-62-0 CAPLUS

CN Lactic acid, 3-(3,4-dimethoxyphenyl)-2-(2-hydroxy-4-methoxyphenyl)- (7CI, 8CI) (CA INDEX NAME)

CAS ONLINE PRINTOUT

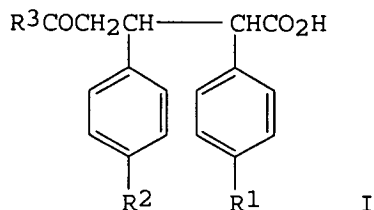


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## CAS ONLINE PRINTOUT

AN 1979:203702 CAPLUS  
 DN 90:203702  
 OREF 90:32393a,32396a  
 TI 5-Oxopentanoic acid derivatives  
 IN Fisnerova, Ludmila; Nemecek, Oldrich; Grimova, Jaroslava  
 PA Czech.  
 SO Czech., 6 pp.  
 CODEN: CZXXA9  
 DT Patent  
 LA Czech  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CS 176744	B1	19770630	CS 1975-2824	19750423
PRAI	CS 1975-2824	A	19750423		
GI					

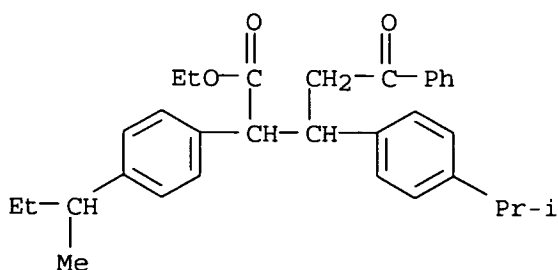


AB The title compds. I (R1 = H, C3-4 alkyl, Cl, NO2, OMe; R2 = H, CHMe2, NMe2, Cl, NO2; R3 = Ph, 2-furyl, CMe3, 3-indanyl, C6H3Cl2-2,4) were prepared by addition of 4-R1C6H4CH2CO2Et to 4-R2C6H4CH:CHCOR3 and saponification of the product. Thus, a solution of 2.46 g PhCH2CO2Et and 3.7 g 4-Me2CHC6H4CH:CHCOPh in Et2O containing EtONa was kept 5 days to give 4.4 g PhCOCH2CH(C6H4CHMe2-4)CHPhCO2Et which was refluxed with AcOH-HBr to yield 3.5 g I (R1 = H, R2 = CHMe2, R3 = Ph). Similarly prepared were PhCOCH2CHR4CHR5CO2H (R4 = 2-pyrrolyl, 3-pyridyl; R5 = Ph, C6H4NO2-4, C6H4CH2CHMe2-4).

IT 59771-47-0P 59771-91-4P 70334-43-9P  
 70334-44-0P 70334-45-1P 70334-46-2P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

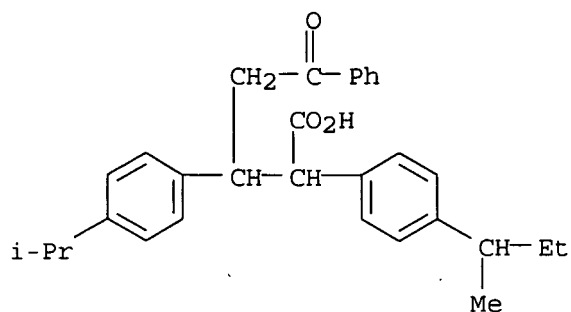
RN 59771-47-0 CAPLUS

CN Benzenepentanoic acid,  $\beta$ -[4-(1-methylethyl)phenyl]- $\alpha$ -[4-(1-methylpropyl)phenyl]- $\delta$ -oxo-, ethyl ester (9CI) (CA INDEX NAME)

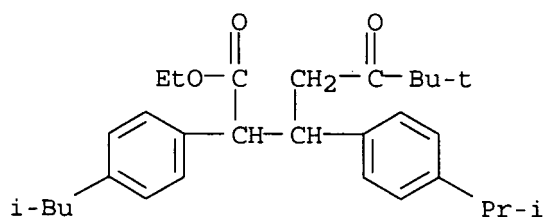


RN 59771-91-4 CAPLUS

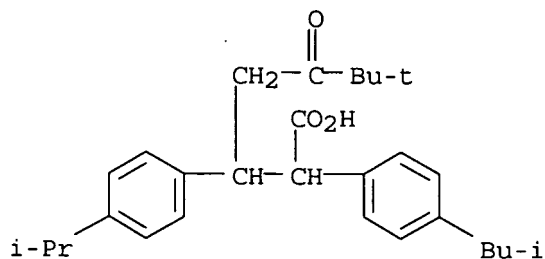
CN Benzenepentanoic acid,  $\beta$ -[4-(1-methylethyl)phenyl]- $\alpha$ -[4-(1-methylpropyl)phenyl]- $\delta$ -oxo- (9CI) (CA INDEX NAME)



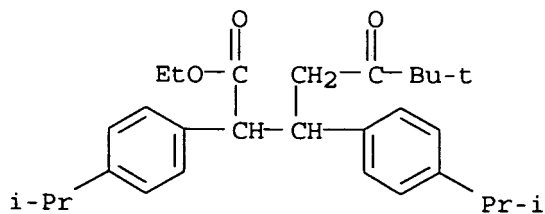
RN 70334-43-9 CAPLUS

CN Benzenepropanoic acid,  $\beta$ -(3,3-dimethyl-2-oxobutyl)-4-(1-methylethyl)- $\alpha$ -[4-(2-methylpropyl)phenyl]-, ethyl ester (CA INDEX NAME)

RN 70334-44-0 CAPLUS

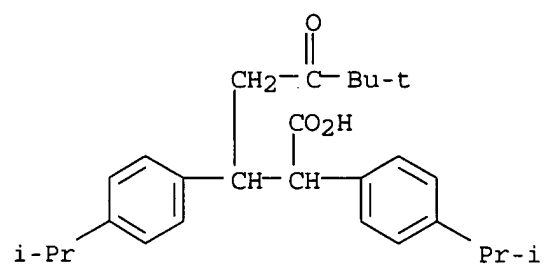
CN Benzenepropanoic acid,  $\beta$ -(3,3-dimethyl-2-oxobutyl)-4-(1-methylethyl)- $\alpha$ -[4-(2-methylpropyl)phenyl]- (CA INDEX NAME)

RN 70334-45-1 CAPLUS

CN Benzenepropanoic acid,  $\beta$ -(3,3-dimethyl-2-oxobutyl)-4-(1-methylethyl)- $\alpha$ -[4-(1-methylethyl)phenyl]-, ethyl ester (CA INDEX NAME)

RN 70334-46-2 CAPLUS

CN Benzenepropanoic acid,  $\beta$ -(3,3-dimethyl-2-oxobutyl)-4-(1-methylethyl)- $\alpha$ -[4-(1-methylethyl)phenyl]- (CA INDEX NAME)



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ANSWER 128 OF 267 CAPLUS COPYRIGHT 2007 ACS on STN

AN 1985:45575 CAPLUS

DN 102:45575

OREF 102:7157a,7160a

TI Synthetic studies in polycyclic systems: part IX - synthesis of methoxy derivatives of 11H-benzo[a]fluorenes and 11H-naphtho[2,1-a]fluorenes

AU Rao, Alaka; Lala, Sunandan; Rao, R. R.

CS Dep. Chem., Visva-Bharati Univ., Santiniketan, 731 235, India

SO Indian Journal of Chemistry, Section B: Organic Chemistry Including Medicinal Chemistry (1984), 23B(7), 603-10

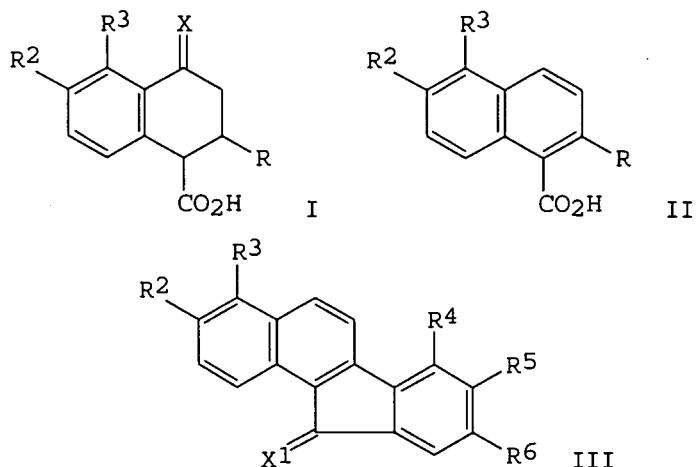
CODEN: IJSBDB; ISSN: 0376-4699

DT Journal

LA English

OS CASREACT 102:45575

GI



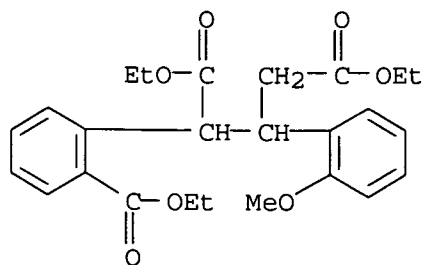
AB Michael reaction of RCH:CHCO<sub>2</sub>Et [R = C<sub>6</sub>H<sub>4</sub>OMe-2, -3, -3, C<sub>6</sub>H<sub>3</sub>COMe)2-3,4] with R<sub>1</sub>CH<sub>2</sub>CO<sub>2</sub>Et (R<sub>1</sub> = Ph, 2-naphthyl) gave 75-86% EtO<sub>2</sub>CCHR<sub>1</sub>CH<sub>2</sub>CO<sub>2</sub>Et, which was hydrolyzed to give HO<sub>2</sub>CCHR<sub>1</sub>CN<sub>2</sub>CH<sub>2</sub>CO<sub>2</sub>H. The diacids were cyclized with SnCl<sub>4</sub> to give 54-64% tetralone derivs. I (R<sub>2</sub> = R<sub>3</sub> = H, CH:CHCH:CH; X = O) which were reduced with Zn or H<sub>2</sub>NNH<sub>2</sub> to give 58-67, 59-66% I (X = H<sub>2</sub>) resp. The last were methylated, dehydrogenated, and saponified to give naphthalene- and phenanthrenecarboxylic acids II (same R's), which were cyclized using H<sub>2</sub>SO<sub>4</sub>, AlCl<sub>3</sub>, or SnCl<sub>4</sub> to give 18-38, 29-42, 52-74% fluorenone derivs. III (R<sub>4</sub> = R<sub>6</sub> = OMe, R<sub>3</sub> = H; R<sub>4</sub> = OMe, R<sub>5</sub> = R<sub>6</sub> = H; R<sub>4</sub> = R<sub>6</sub> = H, R<sub>5</sub> = OMe; R<sub>4</sub> = R<sub>5</sub> = H, R<sub>6</sub> = OMe, X<sub>6</sub> = O), resp. The ketones were reduced with H<sub>2</sub>NNH<sub>2</sub> to give 54-67% title compds. III (same R's, X<sub>1</sub> = H<sub>2</sub>).

IT 94146-62-0P

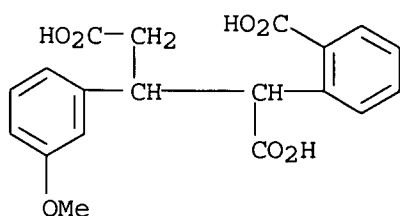
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and saponification of)

RN 94146-62-0 CAPLUS

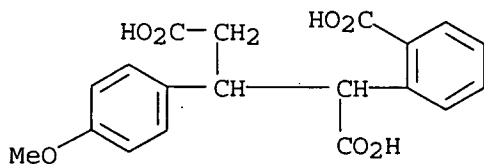
CN Pentanedioic acid, 2-[2-(ethoxycarbonyl)phenyl]-3-(2-methoxyphenyl)-, diethyl ester (9CI) (CA INDEX NAME)



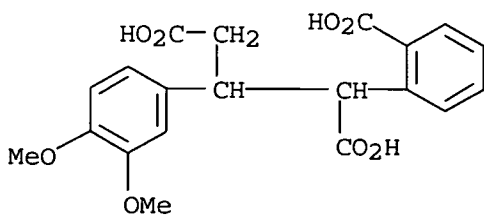
IT 94146-18-6P 94146-19-7P 94146-20-0P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 94146-18-6 CAPLUS  
 CN Pentanedioic acid, 2-(2-carboxyphenyl)-3-(3-methoxyphenyl)- (CA INDEX NAME)



RN 94146-19-7 CAPLUS  
 CN Pentanedioic acid, 2-(2-carboxyphenyl)-3-(4-methoxyphenyl)- (CA INDEX NAME)



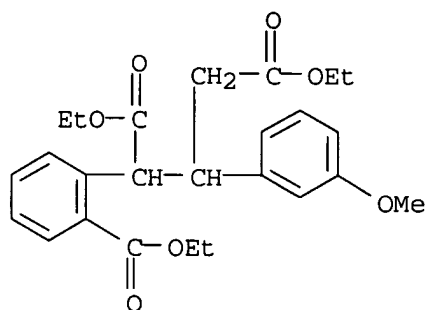
RN 94146-20-0 CAPLUS  
 CN Pentanedioic acid, 2-(2-carboxyphenyl)-3-(3,4-dimethoxyphenyl)- (CA INDEX NAME)



IT 94146-63-1P 94146-64-2P 94146-65-3P  
 94146-66-4P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (preparation, hydrolysis, and Dieckmann cyclization of)  
 RN 94146-63-1 CAPLUS

CAS ONLINE PRINTOUT

CN Pentanedioic acid, 2-[2-(ethoxycarbonyl)phenyl]-3-(3-methoxyphenyl)-,  
diethyl ester (9CI) (CA INDEX NAME)



CAS ONLINE PRINTOUT

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(FILE 'HOME' ENTERED AT 08:08:15 ON 27 DEC 2007)

FILE 'REGISTRY' ENTERED AT 08:08:27 ON 27 DEC 2007

L1 STRUCTURE UPLOADED

L2 1 S L1

L3 1 S L1 CSS

L4 1 S L1 CSS FUL

=> d ide bib l4

L4 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2007 ACS on STN

RN 353228-00-9 REGISTRY

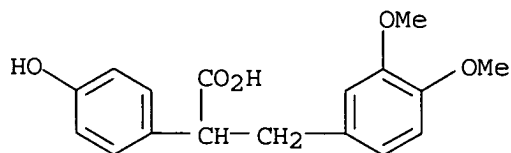
ED Entered STN: 28 Aug 2001

CN Benzenepropanoic acid,  $\alpha$ -(4-hydroxyphenyl)-3,4-dimethoxy- (CA INDEX NAME)

MF C17 H18 O5

SR CA

LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

2 REFERENCES IN FILE CA (1907 TO DATE)

2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1

AN 136:69654 CA

TI Preparation of diphenylethylene compounds as antidiabetic agents

IN Nag, Bishwagit; Dey, Debendranath; Medicherla, Satyanarayana; Neogi, Partha

PA USA

SO U.S. Pat. Appl. Publ., 38 pp., Cont.-in-part of U.S. Ser. No. 642,618.  
CODEN: USXXCO

DT Patent

LA English

FAN.CNT 12

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002002200	A1	20020103	US 2001-777551	20010205
	US 6624197	B1	20030923	US 2000-642618	20000817
	US 2004097593	A1	20040520	US 2003-430677	20030507
	US 2007259961	A9	20071108		
	US 2004259938	A1	20041223	US 2003-690844	20031023
PRAI	US 2000-180340P	20000204			
	US 2000-642618	20000817			
	US 1998-74925	19980508			
	US 1999-436047	19991108			
	US 2001-777551	20010205			
	US 2001-334818P	20011129			
	US 2002-75442	20020215			

## CAS ONLINE PRINTOUT

WO 2002-US38150 20021127

## REFERENCE 2

AN 135:147444 CA  
TI Novel diphenylethylene compounds  
IN Nag, Bishwajit; Dey, Debendranath; Medicherla, Satyanarayana  
PA Calyx Therapeutics, Inc., USA  
SO PCT Int. Appl., 55 pp.  
CODEN: PIXXD2  
DT Patent  
LA English  
FAN.CNT 12

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001056382	A1	20010809	WO 2001-US3797	20010205
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	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	US 6624197	B1	20030923	US 2000-642618	20000817
	CA 2397076	A1	20010809	CA 2001-2397076	20010205
	EP 1251738	A1	20021030	EP 2001-905454	20010205
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	JP 2003521500	T	20030715	JP 2001-556090	20010205
	NZ 520829	A	20041224	NZ 2001-520829	20010205
	AU 784974	B2	20060810	AU 2001-33332	20010205
	MX 2002PA07514	A	20040226	MX 2002-PA7514	20020802
	IN 2002CN01321	A	20070309	IN 2002-CN1321	20020822
PRAI	US 2000-180340P		20000204		
	US 2000-642618		20000817		
	US 1998-74925		19980508		
	WO 2001-US3797		20010205		

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

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